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II. INTRODUCTION

A. Overview

The State Sanitary Code (105 CMR § 445.000) requires that the water at public bathing beaches be tested for bacteria to protect the public from contracting infectious diseases while swimming. The vast majority of beach water quality testing is performed by local health departments (LHD) or local organizations which have most of the information on the testing methods, testing frequency and the actual test results for each town. Data collected from many Boston-area beaches by the Metropolitan District Commission and the data informally shared between several South Shore communities are regional exceptions to this rule.

B. Goals and Objectives

The Bureau of Environmental Health Assessment in the Department of Public Health has looked at the public, marine, bathing beach testing program in Massachusetts through its participation in the Comprehensive Conservation and Management Plan of the Massachusetts Bays Program (MBP, 1995). The overall goal of this project was to evaluate the feasibility of developing a public, marine, bathing beach surveillance system that could be used by different agencies and organizations to assess a variety of public health and environmental quality issues. To this end, the objectives of this project were the following:

- To establish cooperation and collaboration between local health departments (LHD), the Massachusetts Department of Public Health (MDPH), and the Office of Coast Zone Management (CZM) in the Executive Office of Environmental Affairs (EOEA).

- To develop a comprehensive inventory of all the public, marine, bathing beaches in Massachusetts coastal towns.

- To identify the different types of water quality testing methods that were used to test public, marine, bathing beaches in Massachusetts in 1996.

- To identify the different frequencies with which the public, marine, bathing beaches in Massachusetts were tested in 1996.

- To establish a database containing beach testing results from all of the public, marine, bathing beaches tested in Massachusetts in 1995.

- To compile all this information in such a manner that it can aid local and state public health and environmental officials in identifying any problem areas, marshaling the resources necessary to improve beach water quality, reducing public health risks, and protecting the marine environment.

C. Background Information on Beach Water Quality

1. Health Effects from Swimming in Marine Waters

Several prospective and retrospective epidemiological studies conducted by the U.S. Environmental Protection Agency (USEPA) and other researchers (Cabelli, 1989) have observed gastrointestinal symptoms (e.g., vomiting, diarrhea, stomachache, nausea), respiratory symptoms (e.g., sore throat, cough, chest cold, runny nose, sneezing), eye and ear symptoms (e.g., infections, earache, itchiness), dermal symptoms (e.g., skin rash) and fever as a result of swimming in marine waters (both polluted and unpolluted). The results of these studies have suggested that swimmers may be exposed to pathogens (i.e., disease-causing microorganisms) while swimming. Pathogens associated with human fecal matter (e.g., some strains of *Escherichia coli*) that typically cause gastroenteritis may be present in the water as a result of ocean disposal of sewage by boats, sewage treatment plant outfalls, and combined sewer overflows. Pathogens which are not associated with fecal contamination (e.g., *Austrobilharzia variglandis*) and viruses (e.g., hepatitis A virus) that may cause skin rashes and other diseases may also be present in marine waters. Pathogens may be ingested or absorbed while swimming thereby causing an increased risk of disease among swimmers relative to non-swimmers. (Cabelli et al., 1982; Cabelli, 1983; Cabelli, 1989; CDC, 1990; CDC, 1991; CDC, 1992; CDC, 1993; CDC, 1996; Corbett et al., 1993; Coye and Goldoft, 1989).

2. Beach Water Quality Testing Methods

The actual pathogens that cause disease are very difficult to measure in marine waters. In addition, because of the wide variety of different pathogens that could be present in marine waters, measuring all possible pathogens is too difficult for routine testing programs. Therefore, public health officials typically estimate the potential for pathogens to be present in the water by testing the water for a microorganism or a group of microorganisms whose life cycle(s) mimics that of specific pathogens but which are easier to measure than the pathogens themselves. Because they indicate when pathogens are likely to be present, these microorganisms or groups of microorganisms are called "indicators" (Cabelli, 1983).

In the United States, concern about pathogens typically has been related to pathogens associated with fecal contamination (Cabelli, 1983). As a result, methods most commonly used in this country test for an indication of the degree of fecal contamination of the water. The most accurate indicators of fecal contamination are specific microorganisms (e.g., *Escherichia coli, Streptococcus faecalis,* or *Clostridium perfringens*) that are present predominantly in human and animal feces (Cabelli, 1983).

However, testing for a single indicator species can fail to detect the presence of fecal pathogens if that indicator species does not survive in the natural environment for as long as the fecal pathogens themselves (NAS, 1977). Therefore, methods that test for groups of microorganisms as indicators (easier and faster to perform than those that test for specific indicator species) are used frequently as well (Cabelli, 1983). However, one

disadvantage to using groups of microorganisms as indicators is that these tests can falsely predict the presence of fecal contamination if organisms that are not associated with fecal contamination are detected by the method (NAS, 1977; Cabelli, 1983). Four commonly used indicators for fecal contamination are: total coliform, fecal coliform, *Escherichia coli*, and enterococcus. The advantages and disadvantages of the methods used to test for these indicators are described below.

a) Total Coliform Method

Currently, the most general testing method is the total coliform method, which measures the number of bacteria in a water sample that will grow under certain laboratory conditions (Cabelli, 1983). A large number of different organisms are measured by this method, some of which are found exclusively in human and animal intestines (i.e., *Escherichia coli*) (Cabelli, 1983; USEPA, 1985). The advantages of this testing method are that it can be performed quickly and it is relatively sensitive to the presence of fecal contamination given the large number of species that it can detect. However, this method can falsely predict the presence of fecal pathogens because some of the species that are detected by the method (e.g., some species in the genus *Aeromonas*) are not found exclusively in human and animal feces (NAS, 1977; Cabelli, 1983). Furthermore, some waterborne pathogens (e.g., *Salmonella typhi* which causes typhoid fever) and all viruses (e.g., hepatitis A) are not measured by this method (NAS, 1977).

b) Fecal Coliform Method

The fecal coliform test is similar to the total coliform test in that it measures the number of bacteria that can grow under certain laboratory conditions (including *Escherichia coli*). However, the fecal coliform test only measures a subset of the species detected by the total coliform method. As a result, the fecal coliform test detects fewer organisms that are not associated with fecal contamination than the total coliform test, thereby reducing the chances of false-positive results. False positive results are still possible, however, because the fecal coliform method does detect some bacteria that have other sources besides human and animal feces (Cabelli, 1983). On the other hand, the fecal coliform method, like the total coliform method, can fail to detect waterborne pathogens in some cases because it does not detect all waterborne pathogens or viruses.

c) E. coli Method

Escherichia coli (*E. coli*) is a species of bacteria that is exclusively found in human and animal intestines (USEPA, 1985). Certain strains of this species are enteric (i.e., intestinal) pathogens (NAS, 1977). While both the total and fecal coliform methods can detect *E. coli* as part of a group of organisms, the *E. coli* method tests for the presence or absence of this particular species alone. Because *E. coli* is exclusively found in human and animal intestines, this method is a very accurate indicator of fecal contamination (USEPA, 1985). However, the studies by Cabelli (1983) showed that *E. coli* is not an especially good indicator for the presence of fecal pathogens in the marine environment.

This may have been because of differences between the life cycle of *E. coli* and the life cycles of the pathogens.

d) Enterococcus Method

Similar to the total and fecal coliform methods, the enterococcus method detects the number of bacteria that grow under certain laboratory conditions (USEPA, 1985). However, the enterococcus method detects fewer total species than either the fecal or total coliform methods. The enterococcus method measures the concentration of bacteria from a group of species within the *Streptococcus* genus, some of which (e.g., *Streptococcus faecalis*) are typically found in human and animal intestines (USEPA, 1985). Because some of the species that are detected by this method are not associated with fecal contamination (USEPA, 1985), this method can produce false positive results. And, as with the total and fecal coliform methods, some pathogens and all viruses are not detected by this method.

In 1986, the USEPA (1986) recommended that the enterococcus method be used to test water quality at marine, bathing beaches. This recommendation was derived from studies by Cabelli (1983) at three locations (New York, NY; Boston, MA; and Lake Pontchartrain, LA). In these studies, Cabelli (1983) found that reports by swimmers of gastrointestinal illness were better correlated with water quality measurements using the enterococcus method than with water quality measurements using other methods, including the total coliform method, the fecal coliform method, and the *E. coli* method.

3. Existing Water Quality Criteria

Water quality criteria are guidance concentrations that are used by public health officials to make decisions regarding the health risks associated with swimming. These criteria are typically expressed as the concentration of an indicator in the water above which there is the potential for adverse health effects resulting from swimming. The concentrations of a microorganism in water are usually listed as the number of colony forming units (CFU) of indicators per 100 mL of water. For any given measurement of the indicator species in water, the actual health risk from swimming in that water will depend on what pathogens are actually present in the water. Therefore, to make a decision as to the actual health risk related to a particular beach, the health agent may also consider other factors besides water quality criteria for indicator species such as recent rainfall patterns and the number people who use the beach.

a) Total Coliform

The water quality criterion used by the Massachusetts Department of Public Health in the State Sanitary Code is that the total coliform measurement should not exceed 1000 CFU per 100 mL (105 CMR § 445.10 (3)(c)). This standard was developed in the 1950's and was apparently based on the best available pollution control technology at that time and the estimated risk of salmonellosis from swimming in polluted waters. After its

establishment, this criterion was adopted by the Joint Committee of the American Public Health Association and the State Sanitary Engineers and many states (Cabelli, 1983).

b) Fecal Coliform

In 1968, the National Technical Advisory Council (NTAC) of the Federal Water Pollution Control Administration established a criterion for the geometric mean of the fecal coliform count over a 30 day period (for a minimum of five samples) at 200 CFU/100 mL with no more than 10% of the samples exceeding 400 CFU/100 mL. These criteria were based on three epidemiological studies by the U.S. Public Health Service that detected an increased incidence of gastrointestinal illness for people who had been exposed to water containing 2,300 to 2,400 CFU per 100 mL of total coliform (USEPA, 1986). Using the ratio of fecal coliform and total coliform concentrations that were measured at one of the study areas (fecal coliforms comprised 18% of the total coliforms), it was estimated that adverse health affects (i.e., gastroenteritis) could be detected for people who swam in water containing 400 CFU per 100 mL of fecal coliforms. Because the NTAC considered detectable rates of illness to be unacceptable, the criteria for the geometric mean of the fecal coliform concentration was set at 200 CFU per 100 mL by extrapolation using a safety factor of two. Despite criticism of the standard, the USEPA adopted this standard in 1976. By 1978, the majority of states and territories had adopted this standard as well (Cabelli, 1983; USEPA, 1986).

c) E. coli

The USEPA has not established a criterion for *E. coli* in marine waters because the work of Cabelli (1983) showed that enterococcus is the best indicator for fecal pathogens in marine waters (see discussion of enterococcus criteria).

d) Enterococcus

In 1986, the USEPA replaced its water quality criteria for fecal coliform with criteria for enterococcus. Cabelli (1983) combined data from a multi-year symptom incidence survey of swimmers with simultaneous measurements of water quality using many different methods (e.g., total coliform, fecal coliform, enterococcus, *E. coli*, and others) at several beaches in the United States. These studies showed that the enterococcus concentration in bathing waters at marine beaches was more strongly correlated with the incidence of swimming-associated disease (i.e., gastroenteritis) than the concentrations of other indicators. From these data, a relationship between the number of excess cases of swimming-associated disease and the enterococcus concentration in the water was established. USEPA (1986) used this relationship to establish the criteria for enterococcus in marine waters at 104 CFU per 100 mL for a single sample and 35 CFU per 100 mL for the geometric mean of at least five samples over a 30 day period. The criterion for the mean enterococcus concentration was set such that the expected incidence of gastrointestinal illness among swimmers in water just meeting the criterion would be the same as it had been for the previous USEPA water quality criteria for fecal coliform (i.e., 19 illnesses per 1000 swimmers at marine beaches) (USEPA, 1986).

III. METHODS

A. Study Design

For this feasibility study, MDPH aimed to contact the local health departments (LHD) in all of the Massachusetts towns in the coastal zone to gather information about the number of public, marine, bathing beaches in each town and the beach testing methods used by that town. All of the towns in the coastal zone were contacted, instead of just a random fraction, to avoid biasing the results. The LHD were chosen as the point of contact for each town because these departments typically conduct independent testing of water quality at beaches and because of their familiarity with local sanitary conditions as well as responsibility for enforcement of the State Sanitary Code. Other local officials were, in some cases, contacted for additional information upon referral by the LHD. In addition to information on the beach water quality testing practices used by each town, MDPH aimed to gather all the available 1995 beach testing data to form the first comprehensive, centralized database on beach water quality in Massachusetts. Finally, MDPH aimed to compile the water quality criteria that were listed in the 1995 beach testing data submitted by the LHD.

B. Bathing Beach Inventory

1. Development of the Survey Instrument

The first component of the MDPH beach project was to create an inventory of all the public, marine bathing beaches in Massachusetts by contacting the LHD in all the Massachusetts towns in the coastal zone. As a means of organizing and standardizing the information from this survey, MDPH developed a standard survey form that was completed for each beach (see the Beach Survey Form and Key in Appendix A). By completing this survey form, MDPH staff gathered information on the following variables for all the public, marine, bathing beaches in Massachusetts: the coastal region (e.g., Upper North Shore, Cape Cod); the town in which the beach is located; the beach name; the water quality indicator used to test the beach; the agency or group that performs the testing; the frequency at which the beach is tested; whether records of the testing are maintained; the number of people who typically use the beach; and any open or obvious sources of pollution at the beach.

2. Survey implementation

The survey was completed by telephone interviews with local health officials between August 1995 and August 1996. Local health officials were asked to answer the questions on the survey form for each public, marine, bathing beach in their towns based on the 1996 (i.e., current at the time of the interview) testing practices and methods. The survey responses for each beach were entered into a centralized survey database. Each record in the database contained the coastal region, the town name, the beach name, and the

responses to questions A through J (see Table A2 in Appendix A). Additional notes from the telephone interviews were kept in a separate file for each town.

3. Quality Control/Quality Assurance

To ensure that the survey data were accurate, all the survey responses for each public, marine, bathing beach were verified following the completion of the telephone interview. In most cases, the local officials were sent copies of the database entries that pertained to their town to be checked for accuracy. If it was not possible to verify the database by mail, MDPH staff verified the database information over the phone by reading each database entry to the local official and asking him or her if this information was correct. Any errors detected during this verification process were corrected in the database before any analysis was performed.

C. Beach Testing Database

1. Data collection

After conducting the telephone survey, MDPH staff sent a self-addressed, stamped envelope to each town with a request for the 1995 beach water quality testing data. To minimize the burden on the LHD, MDPH did not require that this data be in a standard format. Instead, MDPH requested copies of the 1995 data in whatever format was currently being used by that town.

2. Database Development

MDPH received data from LHD in a myriad of formats. In many cases, testing data from freshwater beaches was mixed with testing data from marine beaches. To form the beach testing database, the testing data was compiled for only those beaches that had been identified as being public, marine, bathing beaches during the telephone survey. This approach was adopted to preserve the integrity of the beach testing database. If all the testing data sent by the LHD had been incorporated into the database, the database could have been a mixture of freshwater and marine testing results. Because the microbiology of marine and fresh waters are different, a combination of these two types of data would have been difficult to interpret.

Each record in the database corresponds to a single beach and lists the coastal region as adapted from MBP (1995), the name of the town, the name of the beach, the date of the test, and the concentrations of any water quality indicators that were measured. If a beach was tested at several locations on the same day, the results from each location were entered as separate records in the database. For tests where an indicator species concentration was below the method detection level, the stated detection level was entered into the database. For cases where the test results were listed as "too numerous to count" or "overgrown" on the laboratory data sheets, "TNTC" or "OG" were entered into the database, respectively. For tests where a concentration was listed as "greater than" a value, that value was entered into the database.

3. Quality Control/Quality Assurance

After the data had been entered into the computer, the database was printed and verified. Each entry was checked against the original data sheets by someone other than the person who had done the original data entry.

D. Water Quality Criteria Database

After receiving the 1995 beach testing data from the local officials, MDPH staff observed that the laboratory data sheets often contained information on the water quality criteria that were used to help evaluate the test results. Because this information was deemed relevant to the study, the criteria that were found on the data sheets and survey responses were compiled into a water quality criteria database. Many of the criteria compiled in this database were taken directly from laboratory data sheets that had been sent to MDPH by the LHD. Therefore, some of the criteria listed in this database are criteria used by the laboratory itself but not necessarily by the LHD. Nevertheless, this database provides useful supplementary information on the variety of criteria that were being used in 1995 or 1996 to interpret the results of beach water quality testing.

E. Limitations

There are several limitations to the conclusions that can be drawn from the results of this study. First, the 1995 beach testing data that were compiled only represent the specific conditions that existed in 1995. Pathogens are affected by a number of factors that can and do change including the temperature of the water, the nutrient concentrations in the water, and the existence of other microorganisms competing for the same ecological niche. Second, the LHD were asked to answer the beach survey questions according to their 1996 practices. In a few cases, the towns had changed their testing protocol between 1995 and 1996. Consequently, the 1995 beach testing data did not exactly match the 1996 survey responses for some of the beaches. Third, there may be occasional cases where the databases (i.e., bathing beach inventory, beach testing, or water quality criteria) could be in error because MDPH received slightly different responses to the same question from different local sources. Given the quality assurance/quality control procedures used in this project, we expect the number of these deficiencies to be small. However, MDPH would welcome further input from the LHD and others to correct any errors that are detected. Lastly, due to the lack of uniformity in testing, comparisons of the quality of sanitary conditions at local beaches cannot be made from the results of this study.

IV. RESULTS

The individual towns that were contacted for the bathing beach inventory survey are listed in Table 1. The initial survey was completed for all 70 Massachusetts towns in the coastal zone. Ten of these towns were found not to have any public, marine, bathing beaches. The survey responses were verified for all of the 60 towns that did have public, marine, bathing beaches (i.e., 100% response rate for the survey). 1995 testing data was received for 50 of the 52 towns that had beach testing in 1995 (i.e., 96% response rate for receiving 1995 testing data). MDPH gathered water quality criteria for 28 of the 53 towns that had beach testing in either 1995 or 1996 (53% response rate for water quality criteria).

The analyses of the bathing beach inventory survey are presented in Tables 2 through 10 and Figures 1 through 3. For some of the analyses, the beaches have been grouped into three categories: all public, marine, bathing beaches; public, marine, bathing beaches that are tested for water quality; and public, marine, bathing beaches that are not tested for water quality. In both the figures and the tables, the variable "n" denotes the number of total records in each group. Table 11 summarizes the data in the beach testing database. In this table, the data have been compared to water quality criteria of 1000 CFU per 100 mL, 200 CFU per 100 mL and 104 CFU per 100 mL for total coliform, fecal coliform and enterococcus, respectively (see the discussion of these criteria in the Introduction). Table 12 summarizes the water quality criteria database.

In addition to these summary tables, the individual survey responses for each beach (for 1996 practices) and the 1995 water quality testing results for each beach are listed in Tables A2, A3 and A4 in Appendix A.

V. DISCUSSION

A. BEACH INVENTORY SURVEY

MDPH contacted all 70 Massachusetts towns in the coastal zone for the bathing beach inventory survey (Table 1). Of these 70 towns, 60 have public, marine, bathing beaches. Fifty two (52) of the 60 towns with public, marine, bathing beaches (87%) had some level of water quality testing in 1995 (Table 2). In 1996, the water quality at beaches in 53 of these 60 towns (88%) were tested to some degree (Table 2).

During the MDPH survey, 325 public, marine, bathing beaches in Massachusetts were identified. Two hundred ninety six (296) of these 325 beaches (91%) were tested for bacterial contamination in 1996 by some method (Table 3). The percentage of all public, marine, bathing beaches that were tested in 1996 (91%, n = 325) is slightly different from the percentage of towns with public, marine, bathing beaches that had testing in 1996 (88%, n = 60) because there are not the same number of public, marine, bathing beaches in every town.

In 1996, the majority of both tested (186 of 296, 63%) and untested (18 of 29, 62%) public, marine, bathing beaches in Massachusetts were used by 50 or more people per day (Table 4). This statistic indicates that there is no obvious difference in the likelihood that a beach will be tested based on the number of visitors that the beach typically receives.

LHD reported that the water quality in 1996 at 110 of the 325 public, marine, bathing beaches (34%) may have been affected by open or obvious sources of pollution (Table 5). The three most common sources of pollution to these affected beaches were reported to be sewer discharges (65 of 134 reports[1], 49%), rainwater runoff (66 of 134 reports, 49%) and treatment plants (49 of 134 reports, 37%). In contrast, boat discharges were named as a pollution source in only 13 of the 134 reports (10%). In 16 of the 134 reports (12%) the water quality was reported to be affected by other sources such as bird droppings and discharges from salt marshes (Table 6, Figure 1)[2].

Open or obvious sources of pollution were reported for 6 of the 29 (21%) public, marine, bathing beaches that were not monitored in 1996 (Table 5). Treatment plants and sewer discharges were the only specific pollution sources listed for these beaches (Table 6, Figure 1). Because survey respondents could interpret the term "open/obvious sources of pollution" from the survey form in different ways, it is difficult to discern whether these reports of pollution at untested public, marine, bathing beaches indicate a public health problem.

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[1] All the beaches for which a survey respondent listed a pollution source. This results in a slight discrepency between the expected population size of 110 and the actual population size for this analysis, 134. See footnote 2 on Table 6 for more information.

[2] The percentages listed in this paragraph do not sum to 100% because many beaches were reported to be affected by two or more of the listed sources.

Of the 296 public, marine, bathing beaches that were monitored in 1996, 161 (54%) were tested for total coliform[3] in accord with the State Sanitary Code (105 CMR § 445.10(3)(c)) (Table 7, Figure 2). In many cases, beaches were tested for total coliform in conjunction with other tests. For instance, only 66 of the 296 of public, marine, bathing beaches that were monitored in 1996 (22%) were tested for total coliform alone. In contrast, 95 of the 296 public, marine, bathing beaches that were monitored in 1996 (32%) were tested for total coliform and at least one other indicator species (e.g., fecal coliform, enterococcus, or *E. coli*).

Two hundred and fifty six (256) of the 296 public, marine, bathing beaches that were monitored in 1996 (86%) were tested at a frequency of at least twice per month as called for in the State Sanitary Code (105 CMR § 445.10(5)(b)) (Table 8, Figure 3).

By combining the survey responses for the testing methods and the testing frequency, it was determined that 147 of the 296 public marine beaches that were monitored in 1996 (50%) were tested by the total coliform method at least every other week in accord with State Sanitary Code.

At the majority of the public, marine, bathing beaches that were tested in 1996 (213 of 296, 72%), the water quality analyses are performed by laboratories that were not within the LHD (Table 9). In many cases, the samples were collected by the LHD and then sent to a laboratory for analysis. Records of the testing and test results are available for 282 of the 296 (95%) public, marine, bathing beaches that were monitored in 1996 (Table 10).

B. Beach Testing Database

MDPH received 857 test results of total coliform, 1884 test results of fecal coliform, and 612 test results of enterococcus for beach water samples that were collected in 1995 by LHD and other organizations in 50 of the 52 towns where testing was performed in 1995. The total coliform, fecal coliform and enterococcus concentrations were equal to or exceeded their respective water quality criteria[4] in approximately 4% (30 out of 857 total coliform samples), 8% (152 out of 1884 fecal coliform samples), and 5% (28 out of 612 enterococcus samples) of the samples (Table 11). Because there is currently no water quality criterion for *E. coli* in marine waters, the results of tests for *E. coli* cannot be evaluated in this manner. The testing results are summarized by beach in Table A4 of Appendix A.

While these data provide useful information to both beach users and beach managers, these results can be misleading and must be interpreted with caution. For instance, a beach where water quality sampling is only performed after a sewage spill may have a higher percentage of exceedences than a beach that is tested every week, even if the

[3] This includes beaches that are tested for total coliform along with some other indicator species (e.g., total coliform and fecal coliform together).

[4] The water quality criteria used in this analysis were: 1000 CFU/100 mL for total coliform, 200 CFU/100 mL for fecal coliform, and 104 CFU/100 mL for enterococcus.

typical water quality at the two areas were the same most of the time. Conversely, if the absolute number of exceedences for these two beaches were compared, the beach that is tested more frequently would appear to have worse water quality than the beach that is tested less frequently. Interpretation of these data is further complicated by the fact that, if water quality criteria are exceeded at a location, many LHD will test the water at this location on each day following the original test until the test results are consistently below the water quality criteria. Therefore, judgments about overall water quality for each beach cannot be drawn from these data. In order to draw valid inter-regional and inter-beach comparisons, the same types of data would need to be systematically collected on the same days under similar conditions from all of the different beaches.

C. Water Quality Criteria Database

Twenty three (23) of the 28 towns or organizations (82%) for which water quality criteria were specified use the State Sanitary Code water quality criterion for total coliform (1000 CFU/100 mL) to evaluate the beach water quality test results (Table 12). Fifteen (15) of these 23 towns or organizations (65%), use the total coliform criterion in combination with other criteria (Table 12). After total coliform, the fecal coliform criterion (200 CFU per 100 mL) is the next most popular criterion (used by 19 of the 28 towns or organizations for which criteria were specified, 68%) (Table 12). The enterococcus criteria of 104 and 35 CFU per 100 mL are only used by one town or organization each. However, one of these two towns or organizations is the Metropolitan District Commission that tests 16 public, marine, bathing beaches in seven metropolitan Boston communities. Water quality criteria were not specified for 25 of the coastal communities that had water quality testing in 1995 or 1996.

VI. CONCLUSIONS

Local health departments and other organizations tested the water quality at nearly all (91%) of the 325 public, marine, bathing beaches in Massachusetts in 1996. Of the 296 public, marine, bathing beaches that were monitored in 1996, 147 (50%) were tested at least every other week using the total coliform method. Therefore, approximately one half of the beach testing performed in the state in 1996 conformed to the practices called for by the State Sanitary Code.

The total coliform method alone was used to test 66 of the 296 public, marine, bathing beaches that were monitored in 1996 (22%). The majority of the towns and agencies that test have adopted testing methods and criteria in addition to or in replacement of the total coliform method that is required by the State Sanitary Code.

The most common sources of beach water quality pollution in 1996 that were reported by LHD were treatment plants, sewer discharges and rainwater runoff.

The measured total coliform, fecal coliform and enterococcus concentrations were equal to or exceeded their respective water quality criteria in approximately 4% (30 of 857 total coliform samples), 8% (152 of 1884 fecal coliform samples), and 5% (28 of 612 enterococcus samples) of the samples tested in 1995. These data may help document temporal trends of beach water quality when compared to future compilations of beach testing data. However, these data could not be used to provide an accurate reflection of regional water quality trends because of variability of testing methods and frequencies between regions. In order to draw valid inter-regional and inter-beach comparisons, the same types of data would need to be systematically collected on the same days under similar conditions from all of the different beaches.

VII. ACKNOWLEDGMENTS

This study would not have been possible without the efforts and cooperation of the local and county health departments in the 70 Massachusetts coastal zone towns. MDPH also received much assistance from many other local and regional organizations, including the Metropolitan District Commission and the Quincy College Environmental Science Program.

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IX. TABLES

Table 1: Massachusetts coastal zone towns that were contacted for the pubic, marine, bathing beach inventory survey, grouped by region

Region	Towns	Survey Completed	Survey Verified	1995 Data Received	Comments
Buzzards Bay	Acushnet	Y	Y	N	No marine beaches
Buzzards Bay	Dartmouth	Y	Y	Y	
Buzzards Bay	Fairhaven	Y	Y	Y	
Buzzards Bay	Falmouth	Y	Y	Y	
Buzzards Bay	Gosnold	Y	Y	N	No marine beaches
Buzzards Bay	Marion	Y	Y	Y	
Buzzards Bay	Mattapoisett	Y	Y	Y	
Buzzards Bay	New Bedford	Y	Y	Y	
Buzzards Bay	Rochester	Y	Y	N	No marine beaches
Buzzards Bay	Wareham	Y	Y	Y	
Buzzards Bay	Westport	Y	Y	Y	
Cape Cod	Barnstable	Y	Y	Y	
Cape Cod	Bourne	Y	Y	Y	
Cape Cod	Brewster	Y	Y	Y	
Cape Cod	Chatham	Y	Y	Y	
Cape Cod	Dennis	Y	Y	Y	
Cape Cod	Eastham	Y	Y	Y	
Cape Cod	Harwich	Y	Y	Y	
Cape Cod	Mashpee	Y	Y	Y	
Cape Cod	Orleans	Y	Y	Y	
Cape Cod	Provincetown	Y	Y	N	No testing[1]
Cape Cod	Sandwich	Y	Y	Y	
Cape Cod	Truro	Y	Y	N	Data not available[2]

Cape Cod	Wellfleet	Y	Y	Y	
Cape Cod	Yarmouth	Y	Y	Y	
Islands	Chilmark	Y	Y	N	No testing
Islands	Edgartown	Y	Y	N	No testing
Islands	Gay Head	Y	Y	N	No testing
Islands	Nantucket	Y	Y	Y	
Islands	Oak Bluffs	Y	Y	Y	
Islands	Tisbury	Y	Y	Y	
Islands	West Tisbury	Y	Y	N	No testing
Metro Boston	Boston (MDC)	Y	Y	Y	
Metro Boston	Braintree	Y	Y	Y	
Metro Boston	Chelsea	Y	N	N	No marine beaches
Metro Boston	Everett	Y	N	N	No marine beaches
Metro Boston	Lynn	Y	Y	Y	
Metro Boston	Milton	Y	Y	N	No marine beaches
Metro Boston	Nahant	Y	Y	Y	
Metro Boston	Quincy	Y	Y	Y	
Metro Boston	Revere	Y	Y	N	All data received from the MDC[3]
Metro Boston	Saugus	Y	N	N	No marine beaches
Metro Boston	Swampscott	Y	Y	Y	
Metro Boston	Winthrop	Y	Y	Y	
Salem Sound	Beverly	Y	Y	Y	
Salem Sound	Danvers	Y	Y	Y	
Salem Sound	Manchester	Y	Y	Y	
Salem Sound	Marblehead	Y	Y	Y	
Salem Sound	Peabody	Y	N	N	No marine beaches
Salem Sound	Salem	Y	Y	Y	

South Shore	Cohasset	Y	Y	Y	
South Shore	Duxbury	Y	Y	Y	
South Shore	Hanover	Y	N	N	No marine beaches
South Shore	Hingham	Y	Y	Y	
South Shore	Hull	Y	Y	Y	
South Shore	Kingston	Y	Y	Y	
South Shore	Marshfield	Y	Y	Y	
South Shore	Norwell	Y	N	N	No marine beaches
South Shore	Pembroke	Y	Y	Y	
South Shore	Plymouth	Y	Y	Y	
South Shore	Scituate	Y	Y	Y	
South Shore	Weymouth	Y	Y	Y	
Upper North Shore	Essex	Y	Y	Y	
Upper North Shore	Gloucester	Y	Y	Y	
Upper North Shore	Ipswich	Y	Y	N	Data not available[2]
Upper North Shore	Newbury	Y	Y	N	No testing in 1995
Upper North Shore	Newburyport	Y	Y	N	No testing
Upper North Shore	Rockport	Y	Y	Y	
Upper North Shore	Rowley	Y	Y	N	No testing
Upper North Shore	Salisbury	Y	Y	Y	

1. The Center for Coastal Studies in Provincetown tests the waters offshore of Provincetown beaches.
2. Data not available as of August 23, 1996.
3. Some Metro Boston towns have beaches that are tested by the town in addition to beaches that are tested by the MDC. In Revere, the MDC does the water quality monitoring at all the public, marine, bathing beaches.

Table 2: Water quality testing at public, marine, bathing beaches in Massachusetts for 1995 and 1996, broken down by town

Type of town	Number (1995)	Percentage (1995)	Number (1996)	Percentage (1996)
Coastal zone towns with public marine bathing beaches for which some level of testing is performed	52	74.29%	53	75.71%
Coastal zone towns with public marine bathing beaches for which no testing is performed	8	11.43%	7	10.00%
Coastal zone towns without public marine bathing beaches[1]	10	14.29%	10	14.29%
Total number of coastal zone towns in Massachusetts	70	100.00%	70	100.00%

1. The towns listed as " Coastal zone towns without marine beaches" are located in the coastal zone but were found to be without public marine bathing beaches during the bathing beach survey.

Table 3: Water quality testing at public, marine, bathing beaches in Massachusetts in 1996, broken down by beach

Type of public marine beach	Number	Percentage
Public marine beaches which are tested using any method	296	91.08%
Public marine beaches which are not tested	29	8.92%
Total number of public marine bathing beaches in Massachusetts	325	100%

Table 4: Approximate density of people at public, marine, bathing beaches in Massachusetts per average bathing day in 1996

Approximate bather density	Number (%) of all public marine bathing beaches	Number (%) of untested public marine bathing beaches	Number (%) of tested public marine bathing beaches
0-10 people	39 (12.00%)	0 (0.00%)	39 (13.18%)
10-20 people	22 (6.77%)	1 (3.45%)	21 (7.09%)
20-50 people	54 (16.62%)	7 (24.14%)	47 (15.88%)
>50 people	204 (62.77%)	18 (62.07%)	186 (62.84%)
No response	6 (1.85%)	3 (10.34%)	3 (1.01%)
Total	325 (100.00%)	29 (100.00%)	296 (100.00%)

Table 5: Reported existence of open or obvious sources of pollution that affected the water quality at public, marine, bathing beaches in Massachusetts in 1996

	Number (%) of all public marine bathing beaches	Number (%) of untested public marine bathing beaches	Number (%) of tested public marine bathing beaches
Yes	110 (33.85%)	6 (20.69%)	104 (35.14%)
No	169 (52.00%)	19 (65.52%)	150 (50.68%)
Don' t Know	41 (12.62%)	2 (6.90%)	39 (13.18%)
No response	5 (1.54%)	2 (6.90%)	3 (1.01%)
Total	325 (100.00%)	29 (100.00%)	296 (100.00%)

Table 6: Reported sources of pollution for all public, marine, bathing beaches in Massachusetts for which a pollution source was specified in 1996

Sources:	Number (%) of all public marine bathing beaches with reported pollution sources	Number (%) of untested public marine bathing beaches with reported pollution sources	Number (%) of tested public marine bathing beaches with reported pollution sources
Treatment plants	49 (36.57%)	5 (100.00%)	44 (34.11%)
Sewer discharge	65 (48.51%)	5 (100.00%)	60 (46.51%)
Boat discharge	13 (9.70%)	0 (0.00%)	13 (10.08%)
Rain water runoff	66 (49.25%)	0 (0.00%)	66 (51.16%)
Other	16 (11.94%)	0 (0.00%)	16 (12.40%)
Total number of beaches with reported sources of pollution	134	5	129

1. The percentages listed in this table do not sum to 100% for each column because many survey respondents stated that bathing beach water quality was affected by several of the above listed factors.
2. Twenty five (25) of the survey responses for individual beaches answered either "no" or "don't know" to question I (i.e., existence of open sources of pollution) but still listed a source of pollution for the beach. One survey response for an individual beach answered "yes" to question I but did not list a source for the pollution. All the responses to question J (i.e., sources of pollution at individual beaches) are listed in Table 6, regardless of how question I was answered. Consequently, there are slight discrepancies between the size of the populations listed in Tables 5 and 6.

Table 7: Water quality indicators or combinations of indicators used to test public, marine, bathing beaches in Massachusetts in 1996

Public marine bathing beaches that are tested using:[1]	Number	Percentage
Total coliform only	66	22.30%
Fecal coliform only	99	33.45%
Enterococcus only	0	0.00%
E.coli only	19	6.42%
Total coliform and fecal coliform (together)	83	28.04%
Total coliform and E.coli together	5	1.69%
Total coliform, fecal coliform, Enterococcus and E.coli (together)	7	2.36%
Fecal coliform and Enterococcus together	17	5.74%
Total	296	100.00%

1. Each of the rows in this table is independent of the others (e.g., the number of beaches tested for total coliform and fecal coliform together is not included in the number of beaches tested for total coliform only).

Table 8: Frequency of water quality testing at public, marine, bathing beaches in Massachusetts in 1996

Public marine bathing beaches that are tested with a frequency of:	Number	Percentage
Bi-weekly (twice per week)	28	9.46%
Weekly	103	34.80%
Bi-monthly (twice per month)	125	42.23%
Bi-monthly to monthly	11	3.72%
Monthly	29	9.80%
Total	296	100.00%

Table 9: Groups, agencies, or individuals who performed the water quality tests at public, marine, bathing beaches in Massachusetts in 1996

Public marine bathing beaches tested by:	Number	Percentage
Local Health Department (LHD)	45	15.20%
Metropolitan District Commission (MDC) or MDC contractor	16	5.41%
Department of Environmental Protection (DEM)	0	0.00%
Outside lab	213	71.96%
Other (e.g., Division of Marine Fisheries, municipal laboratory, etc.)	22	7.43%
Total	296	100.00%

Table 10: Availability of records of testing results for public, marine, bathing beaches in Massachusetts in 1996

Public marine bathing beaches for which:	Number	Percentage
Records kept	282	95.27%
Records not available	5	1.69%
Unknown	9	3.04%
Total	296	100.00%

Table 11: The number of samples in which the measured total coliform, fecal coliform, or enterococcus concentration was equal to or exceeded their respective water quality criteria at public, marine, bathing beaches in Massachusetss in 1995

Water Quality Indicator	Total Number of Samples Collected	Total Number of Samples Exceeding Criterion	Percentage of Samples Exceeding Criterion
Total Coliform[1]	857	30	3.50%
Fecal Coliform[2]	1884	152	8.07%
Enterococcus[3]	612	28	4.58%
Sum of total coliform, fecal coliform, and enterococcus samples[4]	3353	210	6.26%

1. The water quality criterion used for total coliform in this table is 1000 CFU/100 mL. The number of samples with total coliform greater than 1000 CFU/100 mL does not include those samples that were labeled as TNTC (i.e., too numerous to count, n=17) or OG (i.e., overgrown, n=23).
2. The water quality criterion used for fecal coliform in this table is 200 CFU/100 mL. The number of samples with fecal coliform greater than 200 CFU/100 mL does not include those samples that were labeled as TNTC (i.e., too numerous to count, n=4). None of the samples analyzed for fecal coliform were labeled as OG (i.e., overgrown).
3. The water quality criterion used for enterococcus in this table is 104 CFU/100 mL. None of samples that were analyzed for enterococcus were labeled as either TNTC (i.e., too numerous to count) or OG (i.e., overgrown).
4. The total number of samples that is listed in this table differs from the total number of samples listed in Table A4 because the samples that were tested in 1995 for *E. coli* are not included in this table. The *E. coli* samples have not been included in this table because there is currently no water quality criterion for *E. coli* in marine waters.

Table 12: Water quality criteria used by the Massachusetts towns[1] for which some level of water quality testing was performed at public, marine, bathing beaches in 1995 or 1996

Water Quality Criteria[2]	Number of towns[1]	Percentage
Exclusively Total Coliform = 1000 CFU/100mL	8	15.1%
Exclusively Fecal Coliform = 200 CFU/100mL	4	7.5%
A combination of Total Coliform = 1000 CFU/100mL and Fecal Coliform = 200 CFU/100mL	14	26.4%
A combination of Total Coliform = 1000 CFU/100mL, Fecal Coliform = 200 CFU/100mL, and Enterococcus = 35 CFU/100mL	1	1.9%
A combination of Fecal Coliform = 200 CFU/100mL and Enterococcus = 104 CFU/100mL	1	1.9%
No criteria specified	25	47.2%
Total number of towns that had water quality testing at public marine bathing beaches in 1995 or 1996	53	100.0%

1. In this table, the Metropolitan District Commission (MDC), which performs water quality testing at 16 public, marine, bathing beaches in seven Metropolitan Boston towns, has been considered to represent the "town" of Boston. Therefore, the criteria that are used by the MDC have only been counted once, even though the MDC uses these criteria to evaluate the water quality at public, marine, bathing beaches in several communities.
2. Some of the data from this table were taken from raw laboratory reports submitted to MDPH. Therefore, the criteria listed on these reports do not necessarily reflect the criteria which are used by the local health departments.

X. FIGURES

Figure 1
Reported sources of pollution for public, marine, bathing beaches in Massachusetts for which a pollution source was specified in 1996

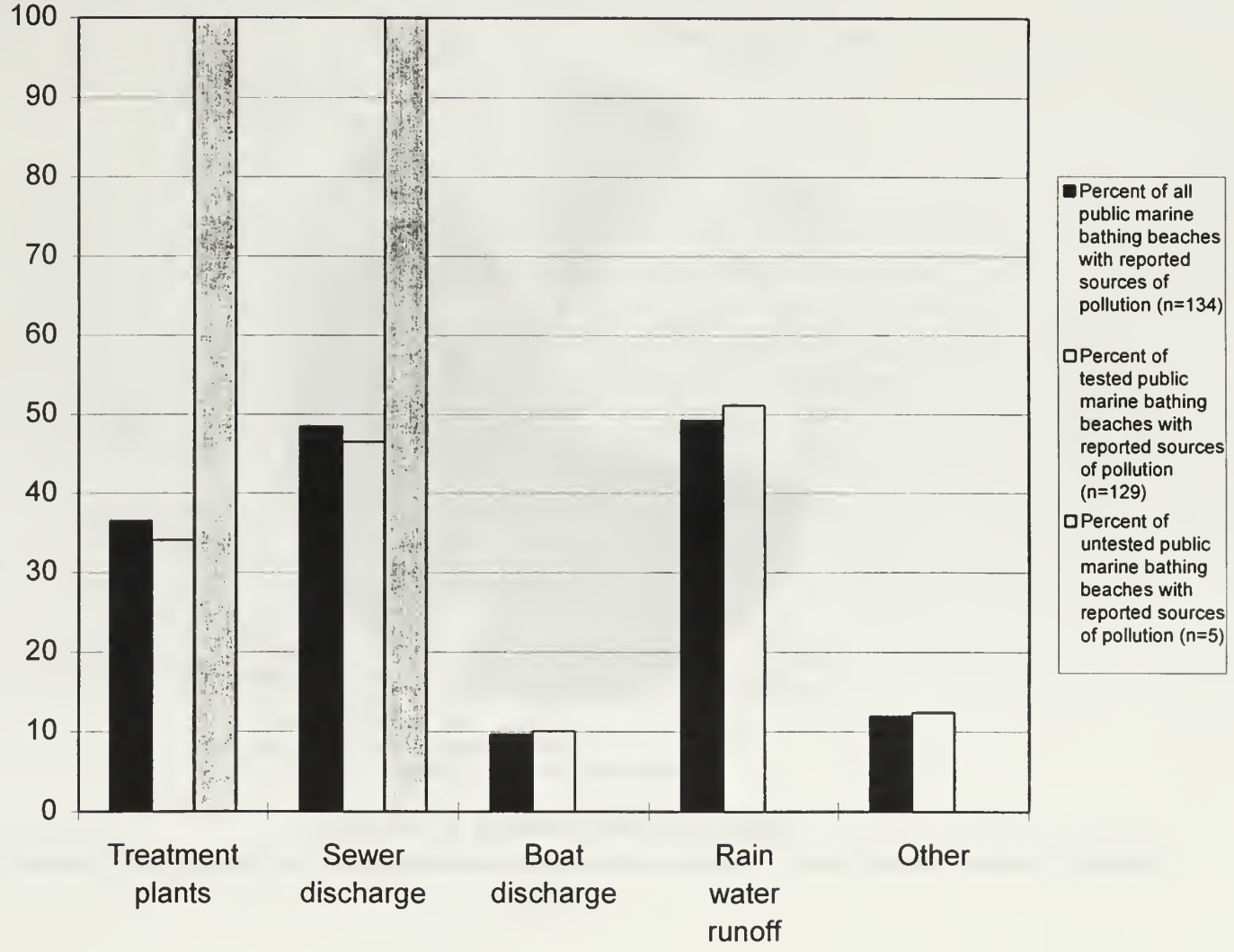


Figure 2

Water quality indicators or combinations of indicators used to test public, marine, bathing beaches in Massachusetts in 1996

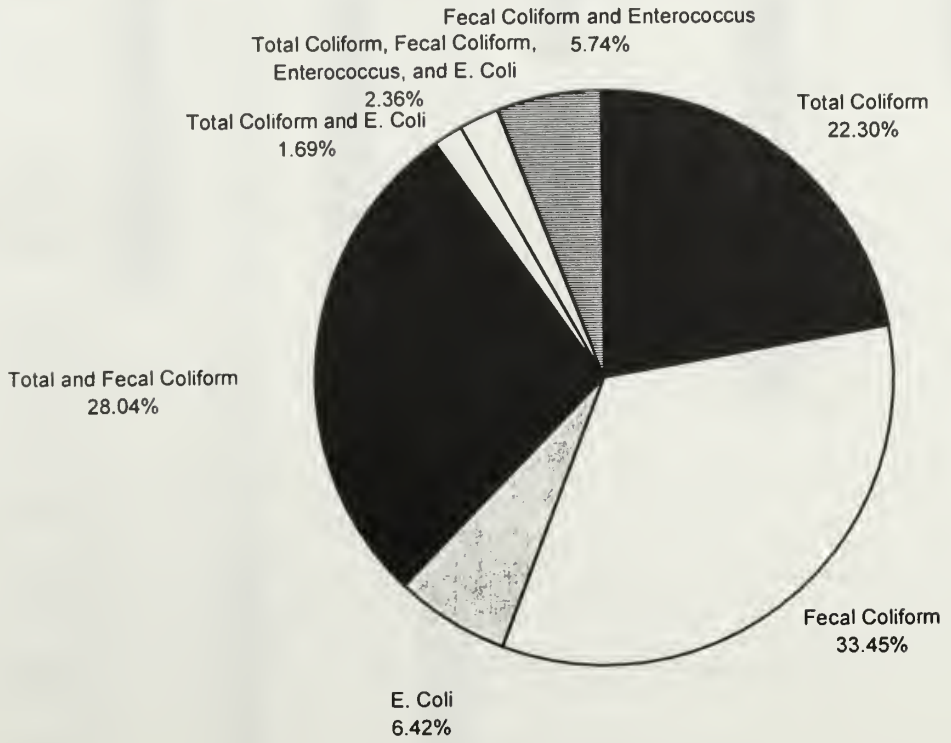
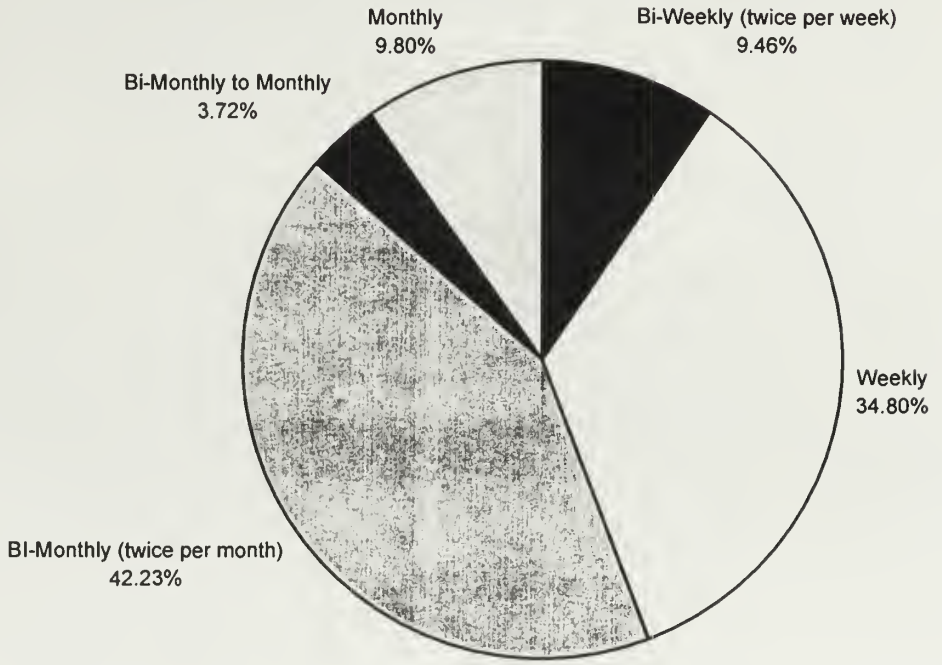


Figure 3
Frequency of water quality testing at public, marine, bathing beaches in Massachusetts in 1996



XI. APPENDIX A

BEACH SURVEY FORM

TOWN_____

NAME OF BEACH_____

A./ Fresh water beach? (1=y/2=n)_____ ☐

B./ Marine beach? (1=y/2=n)_____ ☐

C./ Do you know of any water quality testing that is conducted at this beach. Here we mean bathing water quality in terms of bacteria?

Total coliform / 1
Fecal coliform / 2
Enterococcus / 3
E-coli / 4
Other:_____ ☐

_____

(If no testing is done go to #H)

E./ Who does the testing?

yourself/ 1
MDC / 2
DEM / 3
Outside lab/4
Other_____ ☐

_____

F./ How often is this beach tested?

Bi-weekly / 1
Weekly / 2
Bi-monthly/ 3
Monthly / 4
Other_____ ☐

G./ Do You keep any kind of record of the results of any testing that occurs? (1=y/2=n/3=Don't know) ☐

H./ Approximately what is the user density of the beaches, per average bathing day?

0-10 / 1
10-20/ 2
20-50/ 3
>50 / 4
Other_____ ☐

I./ Are there any open/obvious sources of pollution that affect this bathing beach? (1=y/2=n/3=Don't know) ☐

J./ If "YES" to I what type?

treatment plants/ 1
sewer discharge / 2
boat discharges / 3
Rain water runoff/4
Other_____ ☐

_____

Table A1 Revised Survey Response Key for Questions C, E, F and J

Survey Question	Possible Responses	Survey Code
Question C		
	Total coliform	1
	Fecal coliform	2
	Enterococcus	3
	E. coli	4
	No testing	5
	Total and fecal coliform	6
	Total coliform and E. coli	7
	Total coliform, fecal coliform, enterococcus, and E. coli	8
	Fecal coliform and enterococcus	9
Question E		
	yourself	1
	MDC or MDC contractor	2
	DEM	3
	Outside Lab	4
	Other	5
Question F		
	Bi-weekly	1
	Weekly	2
	Bi-monthly	3
	Monthly	4
	Bi-monthly to monthly	5
Question J		
	Treatment plants	1
	Sewer discharge	2
	Boat discharge	3
	Rain water runoff	4
	Treatment plants and sewer discharge	5
	Treatment plants, sewer discharge and rain water runoff	6
	Treatment plants and rain water runoff	7
	Sewer discharge, boat discharge and rain water runoff	8
	Sewer discharge and rain water runoff	9
	Boat discharge and rain water runoff	10
	Boat discharge and other	11
	Rain water runoff and other	12

Table A2 Massachusetts Marine Bathing Beach Inventory with Survey Form Responses to Questions A Through J.

Region	Town	Beach Name	A	B	C	E	F	G	H	I	J
Buzzards Bay	Dartmouth	Apponagansett Park	2	1	6	4	1	1	4	1	11
Buzzards Bay	Dartmouth	Demerest Lloyd State Park	2	1	6	4	1	1	4	1	5
Buzzards Bay	Dartmouth	Jones Beach	2	1	6	4	1	1	4	1	5
Buzzards Bay	Dartmouth	Lake Noquochoke (closed)	2	1	6	4	5	1	1	1	5
Buzzards Bay	Dartmouth	Round Hill	2	1	6	4	1	1	4	2	
Buzzards Bay	Fairhaven	Fort Phoenix State Beach	2	1	1	1	1	1	3	1	5
Buzzards Bay	Fairhaven	James St	2	1	1	1	1	1	1	1	2
Buzzards Bay	Fairhaven	Manhattan Ave	2	1	1	1	1	1	2	1	2
Buzzards Bay	Fairhaven	Nakata Ave (not an official beach)	2	1	1	1	1	1	1	2	
Buzzards Bay	Fairhaven	Reservation Road	2	1	1	1	1	1	1	1	2
Buzzards Bay	Fairhaven	Seaview Ave (private)	2	1	1	1	1	1	1	2	
Buzzards Bay	Fairhaven	W. Island Improvement Beach	2	1	1	1	1	1	3	1	2
Buzzards Bay	Fairhaven	W. Island Town Beach	2	1	1	1	1	1	4	2	
Buzzards Bay	Fairhaven	Wilburs Point	2	1	1	1	1	1	1	2	
Buzzards Bay	Falmouth	Bristol Beach	2	1	4	4	3	1	4	1	12
Buzzards Bay	Falmouth	Chappaquoit Beach	2	1	4	4	3	1	4	1	12
Buzzards Bay	Falmouth	Falmouth Height	2	1	4	4	3	1	4	1	12
Buzzards Bay	Falmouth	Megonsett Beach	2	1	4	4	3	1	3	1	12
Buzzards Bay	Falmouth	Menauhut Beach	2	1	4	4	3	1	4	1	12
Buzzards Bay	Falmouth	Old Silver Beach (public)	2	1	4	4	3	1	4	1	12
Buzzards Bay	Falmouth	Old Silver Beach (residents)	2	1	4	4	3	1	4	1	12
Buzzards Bay	Falmouth	Stony Beach	2	1	4	4	3	1	3	1	12
Buzzards Bay	Falmouth	Surf Beach	2	1	4	4	3	1	4	1	12
Buzzards Bay	Falmouth	Woodneck Beach	2	1	4	4	3	1	4	1	12
Buzzards Bay	Marion	Island Wharf	2	1	2	5	2	1	1	2	
Buzzards Bay	Marion	Planting Island	2	1	2	5	2	1	3	1	2
Buzzards Bay	Marion	Silver Shell Beach	2	1	2	5	2	1	4	1	2
Buzzards Bay	Mattapoisett	Aucoot	2	1	6	5	3	1	4	3	
Buzzards Bay	Mattapoisett	Ned's Point Beach	2	1	6	5	3	1	4	3	
Buzzards Bay	Mattapoisett	Shining Tides Beach	2	1	6	5	3	1	4	3	
Buzzards Bay	Mattapoisett	Town Bathing Beach	2	1	6	5	3	1	4	2	
Buzzards Bay	New Bedford	East Beach	2	1	6	1	2	1	4	2	
Buzzards Bay	New Bedford	West Beach	2	1	6	1	2	1	4	2	
Buzzards Bay	Wareham	Little Harbor Beach	2	1	6	4	3	1	4	3	4
Buzzards Bay	Wareham	Minot Forest Beach	2	1	6	4	3	1	4	3	4
Buzzards Bay	Wareham	Onset Beach	2	1	6	4	3	1	4	3	4
Buzzards Bay	Wareham	Pinehurst Beach	2	1	6	4	3	1	4	3	4
Buzzards Bay	Wareham	Point Ind. Beach	2	1	6	4	3	1	4	3	4
Buzzards Bay	Wareham	Riverside Beach	2	1	6	4	3	1	4	3	4
Buzzards Bay	Wareham	Swift's Beach	2	1	6	4	3	1	4	3	4

Region	Town	Beach Name	A	B	C	E	F	G	H	I	J
Buzzards Bay	Wareham	Swift's Neck Beach	2	1	6	4	3	1	4	3	4
Buzzards Bay	Wareham	Weweantic Beach	2	1	6	4	3	1	4	3	4
Buzzards Bay	Westport	Bakers Beach	2	1	2	1	4	1	4	2	
Buzzards Bay	Westport	Cherry and Webb Beach	2	1	2	1	4	1	4	2	
Buzzards Bay	Westport	Coppers Beach	2	1	2	1	4	1	4	2	
Buzzards Bay	Westport	East Beach	2	1	2	1	4	1	4	2	
Buzzards Bay	Westport	Gooseberry Neck Island Beach	2	1	2	1	4	1	4	2	
Buzzards Bay	Westport	Horseneck Beach	2	1	2	1	4	1	4	2	
Buzzards Bay	Westport	West Beach	2	1	2	1	4	1	4	2	
Cape Cod	Bamstable	Barnstable Beach	2	1	4	4	4	1	4	2	
Cape Cod	Barnstable	Craigville Beach	2	1	4	4	4	1	4	2	
Cape Cod	Bamstable	Dowses Beach	2	1	4	4	4	1	4	2	
Cape Cod	Bamstable	Hoopers Landing Beach	2	1	4	4	4	1	4	2	
Cape Cod	Bamstable	Kalmus Beach	2	1	4	4	4	1	4	2	
Cape Cod	Bamstable	Loop Beach	2	1	4	4	4	1	4	2	
Cape Cod	Barnstable	Prince Cove	2	1	4	4	4	1	4	2	
Cape Cod	Bamstable	Sea Street Beach (Keyes)	2	1	4	4	4	1	4	2	
Cape Cod	Barnstable	Veteran's Beach	2	1	4	4	4	1	4	2	
Cape Cod	Bourne	Barlow's Landing	2	1	2	4	3	1	2	1	10
Cape Cod	Bourne	Electric Avenue	2	1	2	4	3	1	2	1	4
Cape Cod	Bourne	Gilder Beach	2	1	2	4	3	1	2	1	4
Cape Cod	Bourne	Monument Beach	2	1	2	4	3	1	4	1	10
Cape Cod	Bourne	Patuisset	2	1	2	4	3	1	3	1	11
Cape Cod	Bourne	Sagamore	2	1	2	4	3	1	1	2	
Cape Cod	Brewster	Breakwater Beach	2	1	2	4	3	3	4	2	
Cape Cod	Brewster	Breakwater Landing	2	1	2	4	3	3	2	2	
Cape Cod	Brewster	Crosby Landing	2	1	2	4	3	3	4	2	
Cape Cod	Brewster	Ellis Landing	2	1	2	4	3	3	2	3	
Cape Cod	Brewster	Linnel Beach	2	1	2	4	3	3	3	3	
Cape Cod	Brewster	Paine's Creek Beach	2	1	2	4	3	3	3	3	
Cape Cod	Brewster	Point of Rocks	2	1	2	4	3	3	2	2	
Cape Cod	Brewster	Robin's Hill	2	1	2	4	3	3	2	2	
Cape Cod	Brewster	Saints Landing	2	1	2	4	3	3	2	2	
Cape Cod	Chatham	Cockle Cove	2	1	8	5	3	1	4	2	
Cape Cod	Chatham	Forest Street Beach	2	1	8	5	3	1	3	2	
Cape Cod	Chatham	Hardings Beach	2	1	8	5	3	1	4	2	
Cape Cod	Chatham	Jacknife Harbor Beach	2	1	8	5	3	1	3	2	
Cape Cod	Chatham	Lighthouse Beach	2	1	5				2	2	
Cape Cod	Chatham	North Beach	2	1	5						
Cape Cod	Chatham	Oyster Pond	2	1	8	5	3	1	4	1	4
Cape Cod	Chatham	Pleasant Street Beach	2	1	8	5	3	1	4	2	
Cape Cod	Chatham	Ridgevale Beach	2	1	8	5	3	1	4	2	
Cape Cod	Chatham	South Beach	2	1	5						

Region	Town	Beach Name	A	B	C	E	F	G	H	I	J
Cape Cod	Dennis	Chapen	2	1	6	1	3	1	4	2	
Cape Cod	Dennis	Cold Storage	2	1	6	1	3	1	3	2	
Cape Cod	Dennis	Cooperation	2	1	6	1	3	1	3	2	
Cape Cod	Dennis	Glendon Road	2	1	6	1	3	1	4	2	
Cape Cod	Dennis	Inman	2	1	6	1	3	1	4	1	5
Cape Cod	Dennis	Princess	2	1	6	1	3	1	3	2	
Cape Cod	Dennis	South Village Beach	2	1	6	1	3	1	4	2	
Cape Cod	Dennis	West Dennis Beach	2	1	6	1	3	1	4	1	5
Cape Cod	Eastham	Boat Meadow (closed)	2	1	5				3	1	5
Cape Cod	Eastham	Campground Landing	2	1	2	4	5	2	4	1	4
Cape Cod	Eastham	Coles Road Beach	2	1	5				3	3	
Cape Cod	Eastham	Cooks Brook (Silver Springs)	2	1	5				4	2	
Cape Cod	Eastham	First Encounter	2	1	2	4	5	2	4	1	5
Cape Cod	Eastham	Kingsbury	2	1	5					2	
Cape Cod	Eastham	South Sunken Meadow	2	1	2	4	5	2	4	2	
Cape Cod	Eastham	Thumpertown	2	1	5				3	3	
Cape Cod	Harwich	Atlantic Avenue	2	1	6	4	3	1	4	2	
Cape Cod	Harwich	Bank Street	2	1	6	4	3	1	4	2	
Cape Cod	Harwich	Belmont Road	2	1	6	4	3	1	4	2	
Cape Cod	Harwich	Brooks Road	2	1	6	4	3	1	4	2	
Cape Cod	Harwich	Earle Road	2	1	6	4	3	1	4	2	
Cape Cod	Harwich	Grey Neck Road	2	1	6	4	3	1	4	2	
Cape Cod	Harwich	Merkel Beach	2	1	6	4	3	1	4	2	
Cape Cod	Harwich	Neel Road	2	1	6	4	3	1	4	2	
Cape Cod	Harwich	Pleasant Bay Beach	2	1	6	4	3	1	4	2	
Cape Cod	Harwich	Pleasant Road	2	1	6	4	3	1	4	2	
Cape Cod	Harwich	Red River Beach	2	1	6	4	3	1	4	2	
Cape Cod	Harwich	Sea Street Beach	2	1	6	4	3	1	4	2	
Cape Cod	Harwich	Wah-Wah-Taysee Road	2	1	6	4	3	1	4	2	
Cape Cod	Harwich	Windemere Bluffs Beach	2	1	6	4	3	1	4	2	
Cape Cod	Harwich	Wixon Dock Beach	2	1	6	4	3	1	4	2	
Cape Cod	Harwich	Zylpha Road Beach	2	1	6	4	3	1	4	2	
Cape Cod	Mashpee	Popponesset Spit	2	1	6	4	3	1	4	2	
Cape Cod	Mashpee	South Cape Beach	2	1	6	4	3	1	4	2	
Cape Cod	Orleans	Meetinghouse Pond	2	1	7	4	3	1	3	2	
Cape Cod	Orleans	Nauset Beach	2	1	7	4	5	1	4	2	
Cape Cod	Orleans	Pleasant Bay	2	1	7	4	3	1	3	2	
Cape Cod	Orleans	Skakate Beach	2	1	7	4	5	1	4	2	
Cape Cod	Orleans	Town Cove	2	1	7	4	3	1	3	2	
Cape Cod	Provincetown	Herring Cove	2	1	5				4	1	5
Cape Cod	Provincetown	Race Point	2	1	5				4	1	5
Cape Cod	Sandwich	East Sandwich	2	1	6	1	3	1	4	2	
Cape Cod	Sandwich	Town Neck	2	1	6	1	3	1	4	2	

Region	Town	Beach Name	A	B	C	E	F	G	H	I	J
Cape Cod	Truro	Ballston	2	1	1	4	1	1	4	2	
Cape Cod	Truro	Coast Guard Beach	2	1	1	4	1	1	4	2	
Cape Cod	Truro	Corn Hill	2	1	1	4	1	2	4	2	
Cape Cod	Truro	Fisher	2	1	1	4	1	1	4	2	
Cape Cod	Truro	Great Hollow	2	1	1	4	1	2	4	2	
Cape Cod	Truro	Head of the Meadow	2	1	1	4	1	1	4	2	
Cape Cod	Truro	Longnook	2	1	1	4	1	1	4	2	
Cape Cod	Truro	Ryder	2	1	1	4	1	1	4	2	
Cape Cod	Truro	Truro Beach	2	1	1	4	1	1	4	2	
Cape Cod	Wellfleet	Cahoon Hollow	2	1	5				3	2	
Cape Cod	Wellfleet	Indian Neck	2	1	6	1	4	1	4	2	
Cape Cod	Wellfleet	Lacounte Hollow	2	1	5				3	2	
Cape Cod	Wellfleet	Mayo	2	1	6	1	4	1	4	2	
Cape Cod	Wellfleet	Newcomb Hollow	2	1	5				3	2	
Cape Cod	Wellfleet	White Crest	2	1	5				3	2	
Cape Cod	Yarmouth	Bass Hole Beach	2	1	6	4	4	1	4	3	2
Cape Cod	Yarmouth	Bass River Beach	2	1	6	4	4	1	4	3	2
Cape Cod	Yarmouth	Bay View Beach	2	1	6	4	4	1	4	3	2
Cape Cod	Yarmouth	Colonial Acres Beach (inside) (closed)	2	1	6	4	4	1	4	3	5
Cape Cod	Yarmouth	Colonial Acres Beach (outside)	2	1	6	4	4	1	4	3	2
Cape Cod	Yarmouth	Englewood Beach	2	1	6	4	4	1	4	3	2
Cape Cod	Yarmouth	Follins Pond Beach	2	1	6	4	4	1	4	3	2
Cape Cod	Yarmouth	Wilbur Park	2	1	6	4	4	1	4	3	2
Cape Cod	Yarmouth	Windmill Beach	2	1	6	4	4	1	4	3	2
Islands	Chilmark	Lucy Vincent Beach	2	1	5				4	2	
Islands	Chilmark	Menemsha Beach	2	1	5				4	2	
Islands	Chilmark	Squibnocket	2	1	5				4	2	
Islands	Edgartown	Lighthouse Beach	2	1	5				4	2	
Islands	Edgartown	South Beach	2	1	5				4	2	
Islands	Edgartown	State Beach	2	1	5				4	2	
Islands	Gay Head	Head of Menemsha Pond	2	1	5				4	2	
Islands	Gay Head	Land Bank Beach	2	1	5				4	2	
Islands	Gay Head	Philbin Beach	2	1	5				4	2	
Islands	Gay Head	Vineyard Sound (Menemsha Bite)	2	1	5				4	2	
Islands	Nantucket	Children's Beach	2	1	1	1	2	1	3	1	4
Islands	Nantucket	Cisco Beach	2	1	1	1	2	1	4	2	
Islands	Nantucket	Dionis	2	1	1	1	2	1	4	2	
Islands	Nantucket	Jettie's Beach	2	1	1	1	2	1	4	2	
Islands	Nantucket	Madaket Beach	2	1	1	1	2	1	4	2	
Islands	Nantucket	Siasconset Beach	2	1	1	1	2	1	4	2	
Islands	Nantucket	Surf Side Beach	2	1	1	1	2	1	4	2	
Islands	Nantucket	Washington Street Beach	2	1	1	1	2	1	1	1	4
Islands	Oak Bluffs	East Chop Beach Club	2	1	2	4	5	1	4	1	5

Region	Town	Beach Name	A	B	C	E	F	G	H	I	J
Islands	Oak Bluffs	Eastville Beach	2	1	2	4	5	1	4	1	5
Islands	Oak Bluffs	Lagoon Beach	2	1	2	4	5	1	2	1	5
Islands	Oak Bluffs	Sengenkontacket Pond	2	1	2	4	4	1	3	1	5
Islands	Oak Bluffs	State Beach (Oak Bluffs side)	2	1	2	4	5	1	4	1	5
Islands	Oak Bluffs	Steamship Beach (Jette)	2	1	5				4	1	5
Islands	Oak Bluffs	Town Beach (Pay Beach)	2	1	2	4	5	1	4	3	5
Islands	Tisbury	Lagoon Pond	2	1	2	4	1	1	4	1	11
Islands	Tisbury	Lagoon Pond (Head)	2	1	2	4	1	1	1	1	5
Islands	Tisbury	Owen Little Way	2	1	2	4	1	1	4	1	4
Islands	Tisbury	Owen Park	2	1	2	4	2	1	4	1	11
Islands	Tisbury	Tashmoo Openning	2	1	2	4	2	1	4	1	11
Islands	West Tisbury	Lamberts Cove Beach	2	1	5				4	2	
Islands	West Tisbury	Long Point Beach	2	1	5				4	1	
Metro Boston	Boston	Carson Beach	2	1	9	2	2	1	4	1	9
Metro Boston	Boston	Constitution Beach	2	1	9	2	2	1	4	1	9
Metro Boston	Boston	Lovells Island	2	1	9	2	2	1	4	1	7
Metro Boston	Boston	Malibu Beach Bathhouse	2	1	9	2	2	1	4	1	9
Metro Boston	Boston	Pleasure Bay	2	1	9	2	2	1	4	1	7
Metro Boston	Boston	Savin Hill Beach	2	1	9	2	2	1	1	1	9
Metro Boston	Boston	Tenean Beach	2	1	9	2	2	1	4	1	9
Metro Boston	Braintree	Smith Beach	2	1	2	4	2	1	3	1	4
Metro Boston	Lynn	Kings Beach (north of Red Rock)	2	1	9	2	2	1	4	1	9
Metro Boston	Lynn	Lynn Beach (south of Red Rock)	2	1	9	2	2	1	4	1	9
Metro Boston	Nahant	Canoe Beach	2	1	2	4	2	1	4	3	
Metro Boston	Nahant	Long Beach	2	1	2	4	2	1	4	3	
Metro Boston	Nahant	Nahant Beach	2	1	9	2	2	1	4	1	4
Metro Boston	Nahant	Shore Beach	2	1	2	4	2	1	4	3	
Metro Boston	Nahant	Tutor Beach	2	1	2	4	2	1	4	3	
Metro Boston	Quincy	Avalon	2	1	2	4	2	1	1	1	6
Metro Boston	Quincy	Broady	2	1	2	4	2	1	1	1	6
Metro Boston	Quincy	Chicitawbutt	2	1	2	4	2	1	1	1	6
Metro Boston	Quincy	Edgewater	2	1	2	4	2	1	1	1	6
Metro Boston	Quincy	Mound	2	1	2	4	2	1	1	1	6
Metro Boston	Quincy	Nickerson	2	1	2	4	2	1	1	1	6
Metro Boston	Quincy	Orchard	2	1	2	4	2	1	1	1	6
Metro Boston	Quincy	Parkhurst	2	1	2	4	2	1	1	1	6
Metro Boston	Quincy	Post Island	2	1	2	4	2	1	1	1	6
Metro Boston	Quincy	Rhoda	2	1	2	4	2	1	1	1	6
Metro Boston	Quincy	Wollaston	2	1	9	2	2	1	4	1	2
Metro Boston	Revere	Revere Beach	2	1	9	2	2	1	4	1	4
Metro Boston	Revere	Short Beach	2	1	9	2	2	1	4	1	4
Metro Boston	Swampscott	Eiseman's	2	1	2	4	2	1	4	2	
Metro Boston	Swampscott	Fisherman's	2	1	2	4	2	1	3	2	

Region	Town	Beach Name	A	B	C	E	F	G	H	I	J
Metro Boston	Swampscott	King's Beach	2	1	2	4	2	1	3	2	2
Metro Boston	Swampscott	Kings Beach	2	1	9	2	2	1	4	1	9
Metro Boston	Swampscott	Phillips/Preston	2	1	2	4	2	1	4	2	
Metro Boston	Winthrop	Donovan's Beach	2	1	1	5	3	1	2	2	
Metro Boston	Winthrop	Grand View Ave Beach	2	1	1	5	3	1	3	2	
Metro Boston	Winthrop	Halfort Beach	2	1	1	5	3	1	2	2	
Metro Boston	Winthrop	Pico Beach	2	1	1	5	3	1	2	2	
Metro Boston	Winthrop	Sargent Street Beach	2	1	1	5	3	1	2	2	
Metro Boston	Winthrop	Short Beach	2	1	9	2	2	1	4	1	4
Metro Boston	Winthrop	Winthrop Beach	2	1	9	2	2	1	4	1	4
Metro Boston	Winthrop	Winthrop Shore Drive Beach	2	1	1	5	3	1	4	2	
Metro Boston	Winthrop	Yirrell Beach	2	1	1	5	3	1	4	2	
Salem Sound	Beverly	Dane Street Beach	2	1	6	4	3	1	4	1	2
Salem Sound	Beverly	Gillis Park Beach	2	1	6	4	3	1	4	1	2
Salem Sound	Beverly	Hospital Point Beach	2	1	6	4	3	1	4	1	2
Salem Sound	Beverly	Independence Park Beach	2	1	6	4	3	1	4	1	2
Salem Sound	Beverly	Lynch Park Beach	2	1	6	4	3	1	4	1	2
Salem Sound	Beverly	Over Park Beach	2	1	6	4	3	1	4	1	2
Salem Sound	Beverly	Woodbury Beach	2	1	6	4	3	1	4	1	2
Salem Sound	Danvers	Sandy Beach	2	1	6	4	2	1	2	1	8
Salem Sound	Manchester	Black	2	1	1	4	3	1	3	1	3
Salem Sound	Manchester	Grays Beach	2	1	1	4	3	1	3	3	
Salem Sound	Manchester	Singing Beach	2	1	1	4	3	1	4	2	
Salem Sound	Manchester	Tuck's Point	2	1	1	4	3	1	2	2	3
Salem Sound	Manchester	West Manchester	2	1	1	4	3	1	1	1	5
Salem Sound	Manchester	White	2	1	1	4	3	1	3	2	3
Salem Sound	Marblehead	Corinthian	2	1	6	4	3	1	1	2	
Salem Sound	Marblehead	Corn Point	2	1	6	4	3	1	3	2	
Salem Sound	Marblehead	Devereux	2	1	6	4	3	1	4	2	
Salem Sound	Marblehead	Eastern Beach	2	1	6	4	3	1	1	2	
Salem Sound	Marblehead	Gas House	2	1	6	4	3	1	4	2	
Salem Sound	Marblehead	Grace Olivers	2	1	6	4	3	1	4	1	4
Salem Sound	Marblehead	Naugus	2	1	6	4	3	1	1	2	
Salem Sound	Marblehead	River Head	2	1	6	4	3	1	1	1	4
Salem Sound	Marblehead	State Beach	2	1	6	4	3	1	1	2	
Salem Sound	Marblehead	Stramski	2	1	6	4	3	1	3	1	4
Salem Sound	Marblehead	Sunset	2	1	6	4	3	1	1	2	
Salem Sound	Marblehead	Village Street	2	1	6	4	3	1	3	1	4
Salem Sound	Salem	Collins Cove	2	1	1	4	3	1	3	2	
Salem Sound	Salem	Forest Park (POOL)	2	1	1	4	3	1	3	2	
Salem Sound	Salem	Forest River Point	2	1	1	4	3	1	3	2	
Salem Sound	Salem	Juniper Point	2	1	1	4	3	1	1	2	
Salem Sound	Salem	Mackey	2	1	1	4	3	1	3	2	

Region	Town	Beach Name	A	B	C	E	F	G	H	I	J
Salem Sound	Salem	Osgood	2	1	1	4	3	1	3	2	
Salem Sound	Salem	Palmer's Cove (closed)	2	1	1	4	3	1	1	1	3
Salem Sound	Salem	Pickman	2	1	1	4	3	1	3	1	4
Salem Sound	Salem	Willows	2	1	1	4	3	1	1	1	5
Salem Sound	Salem	Winter Island	2	1	1	4	3	1	2	2	
South Shore	Cohasset	Black Rock	2	1	2	4	2	1	1	2	
South Shore	Cohasset	Sailing Club	2	1	2	4	2	1	1	2	
South Shore	Cohasset	Sandy Beach	2	1	2	4	2	1	1	2	
South Shore	Cohasset	Sandy Cove	2	1	2	4	2	1	1	2	
South Shore	Cohasset	Yacht Club	2	1	2	4	2	1	1	2	
South Shore	Duxbury	Harden Hill	2	1	2	4	2	1			
South Shore	Duxbury	Howlands Landing	2	1	2	4	2	1	1	3	
South Shore	Duxbury	Landing Road	2	1	2	4	2	1			
South Shore	Duxbury	Public Beach (Bath House)	2	1	2	4	2	1	4	3	1
South Shore	Duxbury	Residents Beach	2	1	2	4	2	1	4	2	
South Shore	Duxbury	Shipyard Lane	2	1	2	4	2	1			
South Shore	Duxbury	West Powder Point Bridge	2	1	2	4	2	1	3	3	1
South Shore	Hingham	Town Beach	2	1	2	4	2	1	2	2	
South Shore	Hull	A Street Beach (bay side)	2	1	2	4	2	1	4	1	1
South Shore	Hull	A Street Beach (ocean side)	2	1	2	4	2	1	4	1	1
South Shore	Hull	Darcy's Beach	2	1	2	4	2	1	4	1	1
South Shore	Hull	Gun Rock Beach	2	1	2	4	2	1	4	1	1
South Shore	Hull	Hampton Circle Beach	2	1	2	4	2	1	4	1	1
South Shore	Hull	Helen Street Beach	2	1	2	4	2	1	4	1	1
South Shore	Hull	Jetty Spring Beach	2	1	2	4	2	1	4	1	1
South Shore	Hull	Kenberma Beach (ocean side)	2	1	2	4	2	1	4	1	1
South Shore	Hull	Nantasket	2	1	9	4	2	1	4	1	4
South Shore	Hull	Whitehead Beach	2	1	2	4	2	1	4	1	1
South Shore	Hull	XYZ Street Beach (ocean side)	2	1	2	4	2	1	4	1	1
South Shore	Kingston	Gray's Beach	2	1	1	1	3	1	4	2	
South Shore	Kingston	Rocky Nook	2	1	1	1	3	1	3	2	
South Shore	Marshfield	Brant Rock	2	1	2	1	2	1	2	2	
South Shore	Marshfield	Fieldston	2	1	2	1	2	1	3	2	
South Shore	Marshfield	Green Harbor	2	1	2	1	2	1	3	2	
South Shore	Marshfield	Ninth Road	2	1	2	1	2	1	3	2	
South Shore	Marshfield	Rexame Beach	2	1	2	1	2	1	2	2	
South Shore	Pembroke	Town Landing	2	1	2	4	2	1	2	2	
South Shore	Plymouth	Nelson Street Beach	2	1	6	4	1	1	4	2	
South Shore	Plymouth	Plymouth Beach	2	1	6	4	1	1	4	2	
South Shore	Plymouth	White Horse Beach	2	1	6	4	1	1	4	2	
South Shore	Scituate	Egypt	2	1	2	4	2	1	3	2	
South Shore	Scituate	Humarock	2	1	2	4	2	1	4	2	5
South Shore	Scituate	Minot	2	1	2	4	2	1	3	2	

Region	Town	Beach Name	A	B	C	E	F	G	H	I	J
South Shore	Scituate	Peggotty	2	1	2	4	2	1	3	2	
South Shore	Scituate	Sandhill	2	1	2	4	2	1	3	2	
South Shore	Weymouth	George Lane (New Wessagusset)	2	1	2	4	2	1	4	1	7
South Shore	Weymouth	Old Wessagusset Beach	2	1	2	4	2	1	3	1	7
Upper North Shore	Essex	Clammers Beach	2	1	1	4	2	1	1	3	
Upper North Shore	Essex	Conomo Point	2	1	1	4	2	1	1	3	
Upper North Shore	Gloucester	Cressey Beach	2	1	1	4	2	1	4	2	
Upper North Shore	Gloucester	Good Harbor Beach	2	1	1	4	2	1	4	2	
Upper North Shore	Gloucester	Half Moon Beach	2	1	1	4	2	1	4	2	
Upper North Shore	Gloucester	Niles Beach	2	1	1	4	2	1	4	2	
Upper North Shore	Gloucester	Pavillion Beach	2	1	1	4	2	1	4	2	
Upper North Shore	Gloucester	Plum Cove Beach	2	1	1	4	2	1	4	2	
Upper North Shore	Gloucester	Wingaersheek Beach	2	1	1	4	2	1	4	2	
Upper North Shore	Ipswich	Clark	2	1	2	4	3	1	3	2	
Upper North Shore	Ipswich	Crane	2	1	2	4	3	1	4	1	3
Upper North Shore	Ipswich	Little Neck	2	1	2	4	3	1	3	2	
Upper North Shore	Ipswich	Pavillion	2	1	2	4	3	1	3	1	12
Upper North Shore	Newbury	Plum Island	2	1	6	4	3	1	4	2	
Upper North Shore	Newburyport	Plum Island	2	1	5				4	1	5
Upper North Shore	Rockport	Back Beach	2	1	1	4	2	1	4	3	
Upper North Shore	Rockport	Cape Hedge Beach	2	1	1	4	2	1	4	3	
Upper North Shore	Rockport	Front Beach	2	1	1	4	2	1	4	1	4
Upper North Shore	Rockport	Long Beach	2	1	1	4	2	1	4	3	
Upper North Shore	Rockport	Old Garden Beach	2	1	1	4	2	1	4	1	4
Upper North Shore	Rockport	Pebble Beach	2	1	1	4	2	1	4	3	
Upper North Shore	Rowley	Rowley Beach	2	1	5				4	2	
Upper North Shore	Salisbury	Salisbury State Beach	2	1	2	5	4	1	4	2	

Table A3 Summary of 1996 beach water quality test methods, by beach.

Region	Town	Beach Name	Method	Frequency of Testing
Buzzards Bay	Dartmouth	Apponagansett Park	total coliform and fecal coliform together	bi-weekly (twice per week)
Buzzards Bay	Dartmouth	Demerest Lloyd State Park	total coliform and fecal coliform together	bi-weekly (twice per week)
Buzzards Bay	Dartmouth	Jones Beach	total coliform and fecal coliform together	bi-weekly (twice per week)
Buzzards Bay	Dartmouth	Lake Noquochoke (closed)	total coliform and fecal coliform together	bimonthly to monthly
Buzzards Bay	Dartmouth	Round Hill	total coliform and fecal coliform together	bi-weekly (twice per week)
Buzzards Bay	Fairhaven	Fort Phoenix State Beach	total coliform only	bi-weekly (twice per week)
Buzzards Bay	Fairhaven	James St	total coliform only	bi-weekly (twice per week)
Buzzards Bay	Fairhaven	Manhattan Ave	total coliform only	bi-weekly (twice per week)
Buzzards Bay	Fairhaven	Nakata Ave (not an official beach)	total coliform only	bi-weekly (twice per week)
Buzzards Bay	Fairhaven	Reservation Road	total coliform only	bi-weekly (twice per week)
Buzzards Bay	Fairhaven	Seaview Ave (private)	total coliform only	bi-weekly (twice per week)
Buzzards Bay	Fairhaven	W. Island Improvement Beach	total coliform only	bi-weekly (twice per week)
Buzzards Bay	Fairhaven	W. Island Town Beach	total coliform only	bi-weekly (twice per week)
Buzzards Bay	Fairhaven	Wilburs Point	total coliform only	bi-weekly (twice per week)
Buzzards Bay	Falmouth	Bristol Beach	E.coli only	bi-monthly (twice per month)
Buzzards Bay	Falmouth	Chappaquoit Beach	E.coli only	bi-monthly (twice per month)
Buzzards Bay	Falmouth	Falmouth Height	E.coli only	bi-monthly (twice per month)
Buzzards Bay	Falmouth	Megonsett Beach	E.coli only	bi-monthly (twice per month)
Buzzards Bay	Falmouth	Menauhut Beach	E.coli only	bi-monthly (twice per month)
Buzzards Bay	Falmouth	Old Silver Beach (public)	E.coli only	bi-monthly (twice per month)
Buzzards Bay	Falmouth	Old Silver Beach (residents)	E.coli only	bi-monthly (twice per month)
Buzzards Bay	Falmouth	Stony Beach	E.coli only	bi-monthly (twice per month)
Buzzards Bay	Falmouth	Surf Beach	E.coli only	bi-monthly (twice per month)
Buzzards Bay	Falmouth	Woodneck Beach	E.coli only	bi-monthly (twice per month)
Buzzards Bay	Marion	Island Wharf	fecal coliform only	weekly
Buzzards Bay	Marion	Planting Island	fecal coliform only	weekly
Buzzards Bay	Marion	Silver Shell Beach	fecal coliform only	weekly
Buzzards Bay	Mattapoisett	Aucoot	total coliform and fecal coliform together	bi-monthly (twice per month)
Buzzards Bay	Mattapoisett	Ned's Point Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Buzzards Bay	Mattapoisett	Shining Tides Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Buzzards Bay	Mattapoisett	Town Bathing Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Buzzards Bay	New Bedford	East Beach	total coliform and fecal coliform together	weekly
Buzzards Bay	New Bedford	West Beach	total coliform and fecal coliform together	weekly
Buzzards Bay	Wareham	Little Harbor Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Buzzards Bay	Wareham	Minot Forest Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Buzzards Bay	Wareham	Onset Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Buzzards Bay	Wareham	Pinehurst Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Buzzards Bay	Wareham	Point Ind. Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Buzzards Bay	Wareham	Riverside Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Buzzards Bay	Wareham	Swift's Beach	total coliform and fecal coliform together	bi-monthly (twice per month)

Region	Town	Beach Name	Method	Frequency of Testing
Buzzards Bay	Wareham	Swift's Neck Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Buzzards Bay	Wareham	Weweantic Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Buzzards Bay	Westport	Bakers Beach	fecal coliform only	monthly
Buzzards Bay	Westport	Cherry and Webb Beach	fecal coliform only	monthly
Buzzards Bay	Westport	Coppers Beach	fecal coliform only	monthly
Buzzards Bay	Westport	East Beach	fecal coliform only	monthly
Buzzards Bay	Westport	Gooseberry Neck Island Beach	fecal coliform only	monthly
Buzzards Bay	Westport	Horseneck Beach	fecal coliform only	monthly
Buzzards Bay	Westport	West Beach	fecal coliform only	monthly
Cape Cod	Barnstable	Barnstable Beach	E.coli only	monthly
Cape Cod	Barnstable	Craigville Beach	E.coli only	monthly
Cape Cod	Barnstable	Dowses Beach	E.coli only	monthly
Cape Cod	Barnstable	Hoopers Landing Beach	E.coli only	monthly
Cape Cod	Barnstable	Kalmus Beach	E.coli only	monthly
Cape Cod	Barnstable	Loop Beach	E.coli only	monthly
Cape Cod	Barnstable	Prince Cove	E.coli only	monthly
Cape Cod	Barnstable	Sea Street Beach (Keyes)	E.coli only	monthly
Cape Cod	Barnstable	Veteran's Beach	E.coli only	monthly
Cape Cod	Bourne	Barlow's Landing	fecal coliform only	bi-monthly (twice per month)
Cape Cod	Bourne	Electric Avenue	fecal coliform only	bi-monthly (twice per month)
Cape Cod	Bourne	Gilder Beach	fecal coliform only	bi-monthly (twice per month)
Cape Cod	Bourne	Monument Beach	fecal coliform only	bi-monthly (twice per month)
Cape Cod	Bourne	Patuisset	fecal coliform only	bi-monthly (twice per month)
Cape Cod	Bourne	Sagamore	fecal coliform only	bi-monthly (twice per month)
Cape Cod	Brewster	Breakwater Beach	fecal coliform only	bi-monthly (twice per month)
Cape Cod	Brewster	Breakwater Landing	fecal coliform only	bi-monthly (twice per month)
Cape Cod	Brewster	Crosby Landing	fecal coliform only	bi-monthly (twice per month)
Cape Cod	Brewster	Ellis Landing	fecal coliform only	bi-monthly (twice per month)
Cape Cod	Brewster	Linnel Beach	fecal coliform only	bi-monthly (twice per month)
Cape Cod	Brewster	Paine's Creek Beach	fecal coliform only	bi-monthly (twice per month)
Cape Cod	Brewster	Point of Rocks	fecal coliform only	bi-monthly (twice per month)
Cape Cod	Brewster	Robin's Hill	fecal coliform only	bi-monthly (twice per month)
Cape Cod	Brewster	Saints Landing	fecal coliform only	bi-monthly (twice per month)
Cape Cod	Chatham	Cockle Cove	total coliform, fecal coliform, enterococcus and E.coli together	bi-monthly (twice per month)
Cape Cod	Chatham	Forest Street Beach	total coliform, fecal coliform, enterococcus and E.coli together	bi-monthly (twice per month)
Cape Cod	Chatham	Hardings Beach	total coliform, fecal coliform, enterococcus and E.coli together	bi-monthly (twice per month)
Cape Cod	Chatham	Jacknife Harbor Beach	total coliform, fecal coliform, enterococcus and E.coli together	bi-monthly (twice per month)
Cape Cod	Chatham	Lighthouse Beach	no testing	NA
Cape Cod	Chatham	North Beach	no testing	NA
Cape Cod	Chatham	Oyster Pond	total coliform, fecal coliform, enterococcus and E.coli together	bi-monthly (twice per month)
Cape Cod	Chatham	Pleasant Street Beach	total coliform, fecal coliform, enterococcus and E.coli together	bi-monthly (twice per month)
Cape Cod	Chatham	Ridgevale Beach	total coliform, fecal coliform, enterococcus and E.coli together	bi-monthly (twice per month)
Cape Cod	Chatham	South Beach	no testing	NA

Region	Town	Beach Name	Method	Frequency of Testing
Cape Cod	Dennis	Chapen	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Dennis	Cold Storage	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Dennis	Cooperation	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Dennis	Glendon Road	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Dennis	Inman	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Dennis	Princess	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Dennis	South Village Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Dennis	West Dennis Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Eastham	Boat Meadow (closed)	no testing	NA
Cape Cod	Eastham	Campground Landing	fecal coliform only	bimonthly to monthly
Cape Cod	Eastham	Coles Road Beach	no testing	NA
Cape Cod	Eastham	Cooks Brook (Silver Springs)	no testing	NA
Cape Cod	Eastham	First Encounter	fecal coliform only	bimonthly to monthly
Cape Cod	Eastham	Kingsbury	no testing	NA
Cape Cod	Eastham	South Sunken Meadow	fecal coliform only	bimonthly to monthly
Cape Cod	Eastham	Thumpertown	no testing	NA
Cape Cod	Harwich	Atlantic Avenue	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Harwich	Bank Street	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Harwich	Belmont Road	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Harwich	Brooks Road	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Harwich	Earle Road	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Harwich	Grey Neck Road	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Harwich	Merkel Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Harwich	Neel Road	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Harwich	Pleasant Bay Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Harwich	Pleasant Road	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Harwich	Red River Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Harwich	Sea Street Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Harwich	Wah-Wah-Taysee Road	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Harwich	Windemere Bluffs Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Harwich	Wixon Dock Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Harwich	Zylpha Road Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Mashpee	Popponesset Spit	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Mashpee	South Cape Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Orleans	Meetinghouse Pond	total coliform and E.coli together	bi-monthly (twice per month)
Cape Cod	Orleans	Nauset Beach	total coliform and E.coli together	bimonthly to monthly
Cape Cod	Orleans	Pleasant Bay	total coliform and E.coli together	bi-monthly (twice per month)
Cape Cod	Orleans	Skakate Beach	total coliform and E.coli together	bimonthly to monthly
Cape Cod	Orleans	Town Cove	total coliform and E.coli together	bi-monthly (twice per month)
Cape Cod	Provincetown	Herring Cove	no testing	NA
Cape Cod	Provincetown	Race Point	no testing	NA
Cape Cod	Sandwich	East Sandwich	total coliform and fecal coliform together	bi-monthly (twice per month)
Cape Cod	Sandwich	Town Neck	total coliform and fecal coliform together	bi-monthly (twice per month)

Region	Town	Beach Name	Method	Frequency of Testing
Cape Cod	Truro	Ballston	total coliform only	bi-weekly (twice per week)
Cape Cod	Truro	Coast Guard Beach	total coliform only	bi-weekly (twice per week)
Cape Cod	Truro	Corn Hill	total coliform only	bi-weekly (twice per week)
Cape Cod	Truro	Fisher	total coliform only	bi-weekly (twice per week)
Cape Cod	Truro	Great Hollow	total coliform only	bi-weekly (twice per week)
Cape Cod	Truro	Head of the Meadow	total coliform only	bi-weekly (twice per week)
Cape Cod	Truro	Longnook	total coliform only	bi-weekly (twice per week)
Cape Cod	Truro	Ryder	total coliform only	bi-weekly (twice per week)
Cape Cod	Truro	Truro Beach	total coliform only	bi-weekly (twice per week)
Cape Cod	Wellfleet	Cahoon Hollow	no testing	NA
Cape Cod	Wellfleet	Indian Neck	total coliform and fecal coliform together	monthly
Cape Cod	Wellfleet	Lacounte Hollow	no testing	NA
Cape Cod	Wellfleet	Mayo	total coliform and fecal coliform together	monthly
Cape Cod	Wellfleet	Newcomb Hollow	no testing	NA
Cape Cod	Wellfleet	White Crest	no testing	NA
Cape Cod	Yarmouth	Bass Hole Beach	total coliform and fecal coliform together	monthly
Cape Cod	Yarmouth	Bass River Beach	total coliform and fecal coliform together	monthly
Cape Cod	Yarmouth	Bay View Beach	total coliform and fecal coliform together	monthly
Cape Cod	Yarmouth	Colonial Acres Beach (inside) (closed)	total coliform and fecal coliform together	monthly
Cape Cod	Yarmouth	Colonial Acres Beach (outside)	total coliform and fecal coliform together	monthly
Cape Cod	Yarmouth	Englewood Beach	total coliform and fecal coliform together	monthly
Cape Cod	Yarmouth	Follins Pond Beach	total coliform and fecal coliform together	monthly
Cape Cod	Yarmouth	Wilbur Park	total coliform and fecal coliform together	monthly
Cape Cod	Yarmouth	Windmill Beach	total coliform and fecal coliform together	monthly
Islands	Chilmark	Lucy Vincent Beach	no testing	NA
Islands	Chilmark	Menemsha Beach	no testing	NA
Islands	Chilmark	Squibnocket	no testing	NA
Islands	Edgartown	Lighthouse Beach	no testing	NA
Islands	Edgartown	South Beach	no testing	NA
Islands	Edgartown	State Beach	no testing	NA
Islands	Gay Head	Head of Menemsha Pond	no testing	NA
Islands	Gay Head	Land Bank Beach	no testing	NA
Islands	Gay Head	Philbin Beach	no testing	NA
Islands	Gay Head	Vineyard Sound (Menemsha Bite)	no testing	NA
Islands	Nantucket	Children's Beach	total coliform only	weekly
Islands	Nantucket	Cisco Beach	total coliform only	weekly
Islands	Nantucket	Dionis	total coliform only	weekly
Islands	Nantucket	Jettie's Beach	total coliform only	weekly
Islands	Nantucket	Madaket Beach	total coliform only	weekly
Islands	Nantucket	Siasconset Beach	total coliform only	weekly
Islands	Nantucket	Surf Side Beach	total coliform only	weekly
Islands	Nantucket	Washington Street Beach	total coliform only	weekly
Islands	Oak Bluffs	East Chop Beach Club	fecal coliform only	bimonthly to monthly

Region	Town	Beach Name	Method	Frequency of Testing
Islands	Oak Bluffs	Eastville Beach	fecal coliform only	bimonthly to monthly
Islands	Oak Bluffs	Lagoon Beach	fecal coliform only	bimonthly to monthly
Islands	Oak Bluffs	Sengenkontacket Pond	fecal coliform only	monthly
Islands	Oak Bluffs	State Beach (Oak Bluffs side)	fecal coliform only	bimonthly to monthly
Islands	Oak Bluffs	Steamship Beach (Jette)	no testing	NA
Islands	Oak Bluffs	Town Beach (Pay Beach)	fecal coliform only	bimonthly to monthly
Islands	Tisbury	Lagoon Pond	fecal coliform only	bi-weekly (twice per week)
Islands	Tisbury	Lagoon Pond (Head)	fecal coliform only	bi-weekly (twice per week)
Islands	Tisbury	Owen Little Way	fecal coliform only	bi-weekly (twice per week)
Islands	Tisbury	Owen Park	fecal coliform only	weekly
Islands	Tisbury	Tashmoo Openning	fecal coliform only	weekly
Islands	West Tisbury	Lamberts Cove Beach	no testing	NA
Islands	West Tisbury	Long Point Beach	no testing	NA
Metro Boston	Boston	Carson Beach	fecal coliform and enterococcus together	weekly
Metro Boston	Boston	Constitution Beach	fecal coliform and enterococcus together	weekly
Metro Boston	Boston	Lovells Island	fecal coliform and enterococcus together	weekly
Metro Boston	Boston	Malibu Beach Bathhouse	fecal coliform and enterococcus together	weekly
Metro Boston	Boston	Pleasure Bay	fecal coliform and enterococcus together	weekly
Metro Boston	Boston	Savin Hill Beach	fecal coliform and enterococcus together	weekly
Metro Boston	Boston	Tenean Beach	fecal coliform and enterococcus together	weekly
Metro Boston	Braintree	Smith Beach	fecal coliform only	weekly
Metro Boston	Lynn	Kings Beach (north of Red Rock)	fecal coliform and enterococcus together	weekly
Metro Boston	Lynn	Lynn Beach (south of Red Rock)	fecal coliform and enterococcus together	weekly
Metro Boston	Nahant	Canoe Beach	fecal coliform only	weekly
Metro Boston	Nahant	Long Beach	fecal coliform only	weekly
Metro Boston	Nahant	Nahant Beach	fecal coliform and enterococcus together	weekly
Metro Boston	Nahant	Shore Beach	fecal coliform only	weekly
Metro Boston	Nahant	Tutor Beach	fecal coliform only	weekly
Metro Boston	Quincy	Avalon	fecal coliform only	weekly
Metro Boston	Quincy	Broady	fecal coliform only	weekly
Metro Boston	Quincy	Chicitawbutt	fecal coliform only	weekly
Metro Boston	Quincy	Edgewater	fecal coliform only	weekly
Metro Boston	Quincy	Mound	fecal coliform only	weekly
Metro Boston	Quincy	Nickerson	fecal coliform only	weekly
Metro Boston	Quincy	Orchard	fecal coliform only	weekly
Metro Boston	Quincy	Parkhurst	fecal coliform only	weekly
Metro Boston	Quincy	Post Island	fecal coliform only	weekly
Metro Boston	Quincy	Rhoda	fecal coliform only	weekly
Metro Boston	Quincy	Wollaston	fecal coliform and enterococcus together	weekly
Metro Boston	Revere	Revere Beach	fecal coliform and enterococcus together	weekly
Metro Boston	Revere	Short Beach	fecal coliform and enterococcus together	weekly
Metro Boston	Swampscott	Eiseman's	fecal coliform only	weekly
Metro Boston	Swampscott	Fisherman's	fecal coliform only	weekly

Region	Town	Beach Name	Method	Frequency of Testing
Metro Boston	Swampscott	King's Beach	fecal coliform only	weekly
Metro Boston	Swampscott	Kings Beach	fecal coliform and enterococcus together	weekly
Metro Boston	Swampscott	Phillips/Preston	fecal coliform only	weekly
Metro Boston	Winthrop	Donovan's Beach	total coliform only	bi-monthly (twice per month)
Metro Boston	Winthrop	Grand View Ave Beach	total coliform only	bi-monthly (twice per month)
Metro Boston	Winthrop	Halfort Beach	total coliform only	bi-monthly (twice per month)
Metro Boston	Winthrop	Pico Beach	total coliform only	bi-monthly (twice per month)
Metro Boston	Winthrop	Sargent Street Beach	total coliform only	bi-monthly (twice per month)
Metro Boston	Winthrop	Short Beach	fecal coliform and enterococcus together	weekly
Metro Boston	Winthrop	Winthrop Beach	fecal coliform and enterococcus together	weekly
Metro Boston	Winthrop	Winthrop Shore Drive Beach	total coliform only	bi-monthly (twice per month)
Metro Boston	Winthrop	Yirrell Beach	total coliform only	bi-monthly (twice per month)
Salem Sound	Beverly	Dane Street Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Salem Sound	Beverly	Gillis Park Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Salem Sound	Beverly	Hospital Point Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Salem Sound	Beverly	Independence Park Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Salem Sound	Beverly	Lynch Park Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Salem Sound	Beverly	Over Park Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Salem Sound	Beverly	Woodbury Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Salem Sound	Danvers	Sandy Beach	total coliform and fecal coliform together	weekly
Salem Sound	Manchester	Black	total coliform only	bi-monthly (twice per month)
Salem Sound	Manchester	Grays Beach	total coliform only	bi-monthly (twice per month)
Salem Sound	Manchester	Singing Beach	total coliform only	bi-monthly (twice per month)
Salem Sound	Manchester	Tuck's Point	total coliform only	bi-monthly (twice per month)
Salem Sound	Manchester	West Manchester	total coliform only	bi-monthly (twice per month)
Salem Sound	Manchester	White	total coliform only	bi-monthly (twice per month)
Salem Sound	Marblehead	Corinthian	total coliform and fecal coliform together	bi-monthly (twice per month)
Salem Sound	Marblehead	Corn Point	total coliform and fecal coliform together	bi-monthly (twice per month)
Salem Sound	Marblehead	Devereux	total coliform and fecal coliform together	bi-monthly (twice per month)
Salem Sound	Marblehead	Eastern Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Salem Sound	Marblehead	Gas House	total coliform and fecal coliform together	bi-monthly (twice per month)
Salem Sound	Marblehead	Grace Olivers	total coliform and fecal coliform together	bi-monthly (twice per month)
Salem Sound	Marblehead	Naugus	total coliform and fecal coliform together	bi-monthly (twice per month)
Salem Sound	Marblehead	River Head	total coliform and fecal coliform together	bi-monthly (twice per month)
Salem Sound	Marblehead	State Beach	total coliform and fecal coliform together	bi-monthly (twice per month)
Salem Sound	Marblehead	Stramski	total coliform and fecal coliform together	bi-monthly (twice per month)
Salem Sound	Marblehead	Sunset	total coliform and fecal coliform together	bi-monthly (twice per month)
Salem Sound	Marblehead	Village Street	total coliform and fecal coliform together	bi-monthly (twice per month)
Salem Sound	Salem	Collins Cove	total coliform only	bi-monthly (twice per month)
Salem Sound	Salem	Forest Park (POOL)	total coliform only	bi-monthly (twice per month)
Salem Sound	Salem	Forest River Point	total coliform only	bi-monthly (twice per month)
Salem Sound	Salem	Juniper Point	total coliform only	bi-monthly (twice per month)
Salem Sound	Salem	Mackey	total coliform only	bi-monthly (twice per month)

Region	Town	Beach Name	Method	Frequency of Testing
Salem Sound	Salem	Osgood	total coliform only	bi-monthly (twice per month)
Salem Sound	Salem	Palmer's Cove (closed)	total coliform only	bi-monthly (twice per month)
Salem Sound	Salem	Pickman	total coliform only	bi-monthly (twice per month)
Salem Sound	Salem	Willows	total coliform only	bi-monthly (twice per month)
Salem Sound	Salem	Winter Island	total coliform only	bi-monthly (twice per month)
South Shore	Cohasset	Black Rock	fecal coliform only	weekly
South Shore	Cohasset	Sailing Club	fecal coliform only	weekly
South Shore	Cohasset	Sandy Beach	fecal coliform only	weekly
South Shore	Cohasset	Sandy Cove	fecal coliform only	weekly
South Shore	Cohasset	Yacht Club	fecal coliform only	weekly
South Shore	Duxbury	Harden Hill	fecal coliform only	weekly
South Shore	Duxbury	Howlands Landing	fecal coliform only	weekly
South Shore	Duxbury	Landing Road	fecal coliform only	weekly
South Shore	Duxbury	Public Beach (Bath House)	fecal coliform only	weekly
South Shore	Duxbury	Residents Beach	fecal coliform only	weekly
South Shore	Duxbury	Shipyard Lane	fecal coliform only	weekly
South Shore	Duxbury	West Powder Point Bridge	fecal coliform only	weekly
South Shore	Hingham	Town Beach	fecal coliform only	weekly
South Shore	Hull	A Street Beach (bay side)	fecal coliform only	weekly
South Shore	Hull	A Street Beach (ocean side)	fecal coliform only	weekly
South Shore	Hull	Darcy's Beach	fecal coliform only	weekly
South Shore	Hull	Gun Rock Beach	fecal coliform only	weekly
South Shore	Hull	Hampton Circle Beach	fecal coliform only	weekly
South Shore	Hull	Helen Street Beach	fecal coliform only	weekly
South Shore	Hull	Jetty Spring Beach	fecal coliform only	weekly
South Shore	Hull	Kenberma Beach (ocean side)	fecal coliform only	weekly
South Shore	Hull	Nantasket	fecal coliform and enterococcus together	weekly
South Shore	Hull	Whitehead Beach	fecal coliform only	weekly
South Shore	Hull	XYZ Street Beach (ocean side)	fecal coliform only	weekly
South Shore	Kingston	Gray's Beach	total coliform only	bi-monthly (twice per month)
South Shore	Kingston	Rocky Nook	total coliform only	bi-monthly (twice per month)
South Shore	Marshfield	Brant Rock	fecal coliform only	weekly
South Shore	Marshfield	Fieldston	fecal coliform only	weekly
South Shore	Marshfield	Green Harbor	fecal coliform only	weekly
South Shore	Marshfield	Ninth Road	fecal coliform only	weekly
South Shore	Marshfield	Rexame Beach	fecal coliform only	weekly
South Shore	Pembroke	Town Landing	fecal coliform only	weekly
South Shore	Plymouth	Nelson Street Beach	total coliform and fecal coliform together	bi-weekly (twice per week)
South Shore	Plymouth	Plymouth Beach	total coliform and fecal coliform together	bi-weekly (twice per week)
South Shore	Plymouth	White Horse Beach	total coliform and fecal coliform together	bi-weekly (twice per week)
South Shore	Scituate	Egypt	fecal coliform only	weekly
South Shore	Scituate	Humarock	fecal coliform only	weekly
South Shore	Scituate	Minot	fecal coliform only	weekly

Region	Town	Beach Name	Method	Frequency of Testing
South Shore	Scituate	Peggotty	fecal coliform only	weekly
South Shore	Scituate	Sandhill	fecal coliform only	weekly
South Shore	Weymouth	George Lane (New Wessagusset)	fecal coliform only	weekly
South Shore	Weymouth	Old Wessagusset Beach	fecal coliform only	weekly
Upper North Shore	Essex	Clammers Beach	total coliform only	weekly
Upper North Shore	Essex	Conomo Point	total coliform only	weekly
Upper North Shore	Gloucester	Cressey Beach	total coliform only	weekly
Upper North Shore	Gloucester	Good Harbor Beach	total coliform only	weekly
Upper North Shore	Gloucester	Half Moon Beach	total coliform only	weekly
Upper North Shore	Gloucester	Niles Beach	total coliform only	weekly
Upper North Shore	Gloucester	Pavillion Beach	total coliform only	weekly
Upper North Shore	Gloucester	Plum Cove Beach	total coliform only	weekly
Upper North Shore	Gloucester	Wingaersheek Beach	total coliform only	weekly
Upper North Shore	Ipswich	Clark	fecal coliform only	bi-monthly (twice per month)
Upper North Shore	Ipswich	Crane	fecal coliform only	bi-monthly (twice per month)
Upper North Shore	Ipswich	Little Neck	fecal coliform only	bi-monthly (twice per month)
Upper North Shore	Ipswich	Pavillion	fecal coliform only	bi-monthly (twice per month)
Upper North Shore	Newbury	Plum Island	total coliform and fecal coliform together	bi-monthly (twice per month)
Upper North Shore	Newburyport	Plum Island	no testing	NA
Upper North Shore	Rockport	Back Beach	total coliform only	weekly
Upper North Shore	Rockport	Cape Hedge Beach	total coliform only	weekly
Upper North Shore	Rockport	Front Beach	total coliform only	weekly
Upper North Shore	Rockport	Long Beach	total coliform only	weekly
Upper North Shore	Rockport	Old Garden Beach	total coliform only	weekly
Upper North Shore	Rockport	Pebble Beach	total coliform only	weekly
Upper North Shore	Rowley	Rowley Beach	no testing	NA
Upper North Shore	Salisbury	Salisbury State Beach	fecal coliform only	monthly

Table A4 Summary of 1995 beach water quality testing results, by beach.

Region	Town	Beach Name	Method	Number of Tests	Number of Samples Exceeding Criterion [1][2]	Number of Samples Marked "TNTC"	Number of Samples Marked "OG"
Buzzards Bay	Dartmouth	Apponagansett Park	total coliform	5	0	0	1
Buzzards Bay	Dartmouth	Apponagansett Park	fecal coliform	5	0	0	0
Buzzards Bay	Dartmouth	Demerest Lloyd State Park	total coliform	5	0	1	2
Buzzards Bay	Dartmouth	Demerest Lloyd State Park	fecal coliform	5	0	0	0
Buzzards Bay	Dartmouth	Jones Beach	total coliform	5	0	1	1
Buzzards Bay	Dartmouth	Jones Beach	fecal coliform	5	0	0	0
Buzzards Bay	Dartmouth	Lake Noquochoke (closed)	total coliform	10	0	4	2
Buzzards Bay	Dartmouth	Lake Noquochoke (closed)	fecal coliform	10	1	0	0
Buzzards Bay	Dartmouth	Round Hill	total coliform	5	0	0	2
Buzzards Bay	Dartmouth	Round Hill	fecal coliform	5	0	0	0
Buzzards Bay	Fairhaven	Fort Phoenix State Beach	total coliform	4	0	0	0
Buzzards Bay	Fairhaven	James Street	NA	NA	NA	NA	NA
Buzzards Bay	Fairhaven	Manhattan Avenue	total coliform	3	0	0	0
Buzzards Bay	Fairhaven	Nakata Avenue	NA	NA	NA	NA	NA
Buzzards Bay	Fairhaven	Reservation Road	total coliform	1	0	0	0
Buzzards Bay	Fairhaven	Seaview Ave (private)	total coliform	4	0	0	0
Buzzards Bay	Fairhaven	W. Island Improvement Beach	total coliform	3	0	0	0
Buzzards Bay	Fairhaven	W. Island Town Beach	total coliform	4	0	0	0
Buzzards Bay	Fairhaven	Wilburs Point	total coliform	1	0	0	0
Buzzards Bay	Fairhaven	Bristol Beach	NA	NA	NA	NA	NA
Buzzards Bay	Fairhaven	Chappaquoit Beach	NA	NA	NA	NA	NA
Buzzards Bay	Fairhaven	Falmouth Height	NA	NA	NA	NA	NA
Buzzards Bay	Fairhaven	Megonsett Beach	NA	NA	NA	NA	NA
Buzzards Bay	Fairhaven	Menauhut Beach	NA	NA	NA	NA	NA
Buzzards Bay	Fairhaven	Old Siliver Beach (public)	NA	NA	NA	NA	NA
Buzzards Bay	Fairhaven	Old Siliver Beach (residents)	NA	NA	NA	NA	NA
Buzzards Bay	Falmouth	Stony Beach	total coliform	2	0	0	0
Buzzards Bay	Falmouth	Stony Beach	fecal coliform	2	0	0	0
Buzzards Bay	Falmouth	Surf Beach	total coliform	4	0	0	0
Buzzards Bay	Falmouth	Surf Beach	fecal coliform	4	0	0	0
Buzzards Bay	Falmouth	Woodneck Beach	total coliform	6	0	0	0
Buzzards Bay	Falmouth	Woodneck Beach	fecal coliform	6	1	0	0
Buzzards Bay	Marion	Island Wharf	fecal coliform	9	0	0	0
Buzzards Bay	Marion	Planting Island	fecal coliform	10	0	0	0
Buzzards Bay	Marion	Silver Shell Beach	fecal coliform	10	0	0	0
Buzzards Bay	Mattapoisett	Aucoot	fecal coliform	1	0	0	0
Buzzards Bay	Mattapoisett	Ned's Point Beach	NA	NA	NA	NA	NA
Buzzards Bay	Mattapoisett	Shining Tides Beach	NA	NA	NA	NA	NA
Buzzards Bay	Mattapoisett	Town Bathing Beach	total coliform	3	0	0	0
Buzzards Bay	Mattapoisett	Town Bathing Beach	fecal coliform	7	0	0	0
Buzzards Bay	New Bedford	East Beach	total coliform	50	2	3	7
Buzzards Bay	New Bedford	East Beach	fecal coliform	50	3	2	0
Buzzards Bay	New Bedford	West Beach	total coliform	55	0	0	8
Buzzards Bay	New Bedford	West Beach	fecal coliform	55	2	0	0
Buzzards Bay	Wareham	Little Harbor Beach	total coliform	6	0	0	0

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Region	Town	Beach Name	Method	Number of Tests	Number of Samples Exceeding Criterion [1][2]	Number of Samples Marked "TNTC"	Number of Samples Marked "OG"
Buzzards Bay	Wareham	Little Harbor Beach	fecal coliform	6	0	0	0
Buzzards Bay	Wareham	Minot Forest Beach	total coliform	6	0	0	0
Buzzards Bay	Wareham	Minot Forest Beach	fecal coliform	6	0	0	0
Buzzards Bay	Wareham	Onset Beach	total coliform	6	0	0	0
Buzzards Bay	Wareham	Onset Beach	fecal coliform	6	0	0	0
Buzzards Bay	Wareham	Pinehurst Beach	total coliform	6	0	0	0
Buzzards Bay	Wareham	Pinehurst Beach	fecal coliform	6	0	0	0
Buzzards Bay	Wareham	Point Ind. Beach	total coliform	6	0	0	0
Buzzards Bay	Wareham	Point Ind. Beach	fecal coliform	6	0	0	0
Buzzards Bay	Wareham	Riverside Beach	total coliform	6	0	0	0
Buzzards Bay	Wareham	Riverside Beach	fecal coliform	6	0	0	0
Buzzards Bay	Wareham	Swift's Beach	total coliform	6	0	0	0
Buzzards Bay	Wareham	Swift's Beach	fecal coliform	6	0	0	0
Buzzards Bay	Wareham	Swift's Neck Beach	total coliform	6	0	0	0
Buzzards Bay	Wareham	Swift's Neck Beach	fecal coliform	6	0	0	0
Buzzards Bay	Wareham	Weweantic Beach	total coliform	6	0	0	0
Buzzards Bay	Wareham	Weweantic Beach	fecal coliform	6	1	0	0
Buzzards Bay	Westport	Bakers Beach	NA	NA	NA	NA	NA
Buzzards Bay	Westport	Cherry and Webb Beach	fecal coliform	3	0	0	0
Buzzards Bay	Westport	Coppers Beach	NA	NA	NA	NA	NA
Buzzards Bay	Westport	East Beach	fecal coliform	6	0	0	0
Buzzards Bay	Westport	Gooseberry Neck Island Beach	NA	NA	NA	NA	NA
Buzzards Bay	Westport	Horseneck Beach	fecal coliform	3	0	0	0
Buzzards Bay	Westport	West Beach	fecal coliform	3	0	0	0
Cape Cod	Barnstable	Barnstable Beach	total coliform	4	0	0	0
Cape Cod	Barnstable	Barnstable Beach	fecal coliform	4	0	0	0
Cape Cod	Barnstable	Craigville Beach	total coliform	6	0	0	0
Cape Cod	Barnstable	Craigville Beach	fecal coliform	6	0	0	0
Cape Cod	Barnstable	Dowses Beach	total coliform	6	0	0	0
Cape Cod	Barnstable	Dowses Beach	fecal coliform	6	1	0	0
Cape Cod	Barnstable	Hoopers Landing Beach	total coliform	6	0	0	0
Cape Cod	Barnstable	Hoopers Landing Beach	fecal coliform	6	0	0	0
Cape Cod	Barnstable	Kalmus Beach	total coliform	6	0	2	0
Cape Cod	Barnstable	Kalmus Beach	fecal coliform	6	1	0	0
Cape Cod	Barnstable	Loop Beach	total coliform	7	0	0	0
Cape Cod	Barnstable	Loop Beach	fecal coliform	7	0	0	0
Cape Cod	Barnstable	Prince Cove	total coliform	6	1	0	0
Cape Cod	Barnstable	Prince Cove	fecal coliform	6	3	0	0
Cape Cod	Barnstable	Sea Street Beach (Keyes)	total coliform	6	0	0	0
Cape Cod	Barnstable	Sea Street Beach (Keyes)	fecal coliform	6	0	0	0
Cape Cod	Barnstable	Veteran's Beach	total coliform	6	0	0	0
Cape Cod	Barnstable	Veteran's Beach	fecal coliform	6	0	0	0
Cape Cod	Bourne	Barlow's Landing	total coliform	5	0	0	0
Cape Cod	Bourne	Barlow's Landing	fecal coliform	5	0	0	0
Cape Cod	Bourne	Electric Avenue	total coliform	4	0	0	0
Cape Cod	Bourne	Electric Avenue	fecal coliform	4	0	0	0
Cape Cod	Bourne	Gilder Beach	total coliform	5	0	0	0
Cape Cod	Bourne	Gilder Beach	fecal coliform	5	0	0	0

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Region	Town	Beach Name	Method	Number of Tests	Number of Samples Exceeding Criterion [1][2]	Number of Samples Marked "TNTC"	Number of Samples Marked "OG"
Cape Cod	Bourne	Monument Beach	total coliform	5	0	0	0
Cape Cod	Bourne	Monument Beach	fecal coliform	5	0	0	0
Cape Cod	Bourne	Patuisset	total coliform	6	0	0	0
Cape Cod	Bourne	Patuisset	fecal coliform	6	0	0	0
Cape Cod	Bourne	Sagamore	total coliform	5	0	0	0
Cape Cod	Bourne	Sagamore	fecal coliform	5	0	0	0
Cape Cod	Brewster	Breakwater Beach	fecal coliform	4	0	0	0
Cape Cod	Brewster	Breakwater Landing	NA	NA	NA	NA	NA
Cape Cod	Brewster	Crosby Landing	NA	NA	NA	NA	NA
Cape Cod	Brewster	Ellis Landing	fecal coliform	4	0	0	0
Cape Cod	Brewster	Linnel Beach	fecal coliform	4	0	0	0
Cape Cod	Brewster	Paine's Creek Beach	NA	NA	NA	NA	NA
Cape Cod	Brewster	Point of Rocks	fecal coliform	4	0	0	0
Cape Cod	Brewster	Robin's Hill	NA	NA	NA	NA	NA
Cape Cod	Brewster	Saints Landing	fecal coliform	4	0	0	0
Cape Cod	Chatham	Cockle Cove	total coliform	7	0	0	0
Cape Cod	Chatham	Cockle Cove	fecal coliform	7	0	0	0
Cape Cod	Chatham	Cockle Cove	enterococcus	7	0	0	0
Cape Cod	Chatham	Cockle Cove	E. coli	7	NC	0	0
Cape Cod	Chatham	Forest Street Beach	total coliform	7	0	1	0
Cape Cod	Chatham	Forest Street Beach	fecal coliform	7	0	0	0
Cape Cod	Chatham	Forest Street Beach	enterococcus	7	0	0	0
Cape Cod	Chatham	Forest Street Beach	E. coli	7	NC	0	0
Cape Cod	Chatham	Hardings Beach	total coliform	7	0	0	0
Cape Cod	Chatham	Hardings Beach	fecal coliform	7	0	0	0
Cape Cod	Chatham	Hardings Beach	enterococcus	7	0	0	0
Cape Cod	Chatham	Hardings Beach	E. coli	7	NC	0	0
Cape Cod	Chatham	Jacknife Harbor Beach	total coliform	7	0	0	0
Cape Cod	Chatham	Jacknife Harbor Beach	fecal coliform	7	0	0	0
Cape Cod	Chatham	Jacknife Harbor Beach	enterococcus	7	0	0	0
Cape Cod	Chatham	Jacknife Harbor Beach	E. coli	7	NC	0	0
Cape Cod	Chatham	Lighthouse Beach	NA	NA	NA	NA	NA
Cape Cod	Chatham	North Beach	NA	NA	NA	NA	NA
Cape Cod	Chatham	Oyster Pond	total coliform	7	0	0	0
Cape Cod	Chatham	Oyster Pond	fecal coliform	7	0	0	0
Cape Cod	Chatham	Oyster Pond	enterococcus	7	0	0	0
Cape Cod	Chatham	Oyster Pond	E. coli	7	NC	0	0
Cape Cod	Chatham	Pleasant Street Beach	total coliform	7	0	0	0
Cape Cod	Chatham	Pleasant Street Beach	fecal coliform	7	0	0	0
Cape Cod	Chatham	Pleasant Street Beach	enterococcus	7	0	0	0
Cape Cod	Chatham	Pleasant Street Beach	E. coli	7	NC	0	0
Cape Cod	Chatham	Ridgevale Beach	total coliform	7	0	0	0
Cape Cod	Chatham	Ridgevale Beach	fecal coliform	7	0	0	0
Cape Cod	Chatham	Ridgevale Beach	enterococcus	7	0	0	0
Cape Cod	Chatham	Ridgevale Beach	E. coli	7	NC	0	0
Cape Cod	Chatham	South Beach	NA	NA	NA	NA	NA
Cape Cod	Dennis	Chapen	NA	NA	NA	NA	NA
Cape Cod	Dennis	Cold Storage	total coliform	7	0	0	0

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Region	Town	Beach Name	Method	Number of Tests	Number of Samples Exceeding Criterion [1][2]	Number of Samples Marked "TNTC"	Number of Samples Marked "OG"
Cape Cod	Dennis	Cold Storage	fecal coliform	7	0	0	0
Cape Cod	Dennis	Corporation	total coliform	2	0	0	0
Cape Cod	Dennis	Corporation	fecal coliform	2	0	0	0
Cape Cod	Dennis	Glendon Road	total coliform	7	0	0	0
Cape Cod	Dennis	Glendon Road	fecal coliform	7	0	0	0
Cape Cod	Dennis	Inman	total coliform	7	0	0	0
Cape Cod	Dennis	Inman	fecal coliform	7	0	0	0
Cape Cod	Dennis	Princess	total coliform	7	0	0	0
Cape Cod	Dennis	Princess	fecal coliform	7	0	0	0
Cape Cod	Dennis	South Village Beach	total coliform	7	0	0	0
Cape Cod	Dennis	South Village Beach	fecal coliform	7	0	0	0
Cape Cod	Dennis	West Dennis Beach	total coliform	7	0	0	0
Cape Cod	Dennis	West Dennis Beach	fecal coliform	7	0	0	0
Cape Cod	Eastham	Boat Meadow (closed)	NA	NA	NA	NA	NA
Cape Cod	Eastham	Campground Landing	fecal coliform	5	0	0	0
Cape Cod	Eastham	Coles Road Beach	NA	NA	NA	NA	NA
Cape Cod	Eastham	Cooks Brook (Silver Springs)	NA	NA	NA	NA	NA
Cape Cod	Eastham	First Encounter	fecal coliform	5	0	0	0
Cape Cod	Eastham	Kingsbury	NA	NA	NA	NA	NA
Cape Cod	Eastham	South Sunken Meadow	NA	NA	NA	NA	NA
Cape Cod	Eastham	Thumpertown	NA	NA	NA	NA	NA
Cape Cod	Harwich	Atlantic Avenue	NA	NA	NA	NA	NA
Cape Cod	Harwich	Bank Street	total coliform	2	0	0	0
Cape Cod	Harwich	Bank Street	fecal coliform	2	0	0	0
Cape Cod	Harwich	Belmont Road	NA	NA	NA	NA	NA
Cape Cod	Harwich	Brooks Road	total coliform	1	0	0	0
Cape Cod	Harwich	Brooks Road	fecal coliform	1	0	0	0
Cape Cod	Harwich	Earle Road	total coliform	2	0	1	0
Cape Cod	Harwich	Earle Road	fecal coliform	2	0	0	0
Cape Cod	Harwich	Grey Neck Road	total coliform	2	0	1	0
Cape Cod	Harwich	Grey Neck Road	fecal coliform	2	0	0	0
Cape Cod	Harwich	Merkel Beach	NA	NA	NA	NA	NA
Cape Cod	Harwich	Neel Road	total coliform	1	0	0	0
Cape Cod	Harwich	Neel Road	fecal coliform	1	0	0	0
Cape Cod	Harwich	Pleasant Bay Beach	total coliform	3	0	0	0
Cape Cod	Harwich	Pleasant Bay Beach	fecal coliform	3	0	0	0
Cape Cod	Harwich	Pleasant Road	total coliform	1	0	1	0
Cape Cod	Harwich	Pleasant Road	fecal coliform	1	0	0	0
Cape Cod	Harwich	Red River Beach	total coliform	4	0	0	0
Cape Cod	Harwich	Red River Beach	fecal coliform	4	0	0	0
Cape Cod	Harwich	Sea Street Beach	total coliform	1	0	0	0
Cape Cod	Harwich	Sea Street Beach	fecal coliform	1	0	0	0
Cape Cod	Harwich	Wah-Wah-Taysee Road	NA	NA	NA	NA	NA
Cape Cod	Harwich	Windemere Bluffs Beach	NA	NA	NA	NA	NA
Cape Cod	Harwich	Wixon Dock Beach	total coliform	1	0	0	0
Cape Cod	Harwich	Wixon Dock Beach	fecal coliform	1	0	0	0
Cape Cod	Harwich	Zylpha Road Beach	NA	NA	NA	NA	NA
Cape Cod	Mashpee	Popponesset Spit	total coliform	4	0	0	0

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Region	Town	Beach Name	Method	Number of Tests	Number of Samples Exceeding Criterion [1][2]	Number of Samples Marked "TNTC"	Number of Samples Marked "OG"
Cape Cod	Mashpee	Popponesset Spit	fecal coliform	4	0	0	0
Cape Cod	Mashpee	South Cape Beach	total coliform	3	0	0	0
Cape Cod	Mashpee	South Cape Beach	fecal coliform	3	0	0	0
Cape Cod	Orleans	Meetinghouse Pond	total coliform	2	0	0	0
Cape Cod	Orleans	Meetinghouse Pond	fecal coliform	2	0	0	0
Cape Cod	Orleans	Nauset Beach	NA	NA	NA	NA	NA
Cape Cod	Orleans	Pleasant Bay	total coliform	2	0	0	0
Cape Cod	Orleans	Pleasant Bay	fecal coliform	2	0	0	0
Cape Cod	Orleans	Skakate Beach	NA	NA	NA	NA	NA
Cape Cod	Orleans	Town Cove	total coliform	2	0	0	0
Cape Cod	Orleans	Town Cove	fecal coliform	2	0	0	0
Cape Cod	Provincetown	Herring Cove	NA	NA	NA	NA	NA
Cape Cod	Provincetown	Race Point	NA	NA	NA	NA	NA
Cape Cod	Sandwich	East Sandwich	total coliform	2	0	0	0
Cape Cod	Sandwich	East Sandwich	fecal coliform	2	0	0	0
Cape Cod	Sandwich	Town Neck	total coliform	2	0	0	0
Cape Cod	Sandwich	Town Neck	fecal coliform	2	0	0	0
Cape Cod	Truro	Ballston	NA	NA	NA	NA	NA
Cape Cod	Truro	Coast Guard Beach	NA	NA	NA	NA	NA
Cape Cod	Truro	Corn Hill	NA	NA	NA	NA	NA
Cape Cod	Truro	Fisher	NA	NA	NA	NA	NA
Cape Cod	Truro	Great Hollow	NA	NA	NA	NA	NA
Cape Cod	Truro	Head of the Meadow	NA	NA	NA	NA	NA
Cape Cod	Truro	Longnook	NA	NA	NA	NA	NA
Cape Cod	Truro	Ryder	NA	NA	NA	NA	NA
Cape Cod	Truro	Truro Beach	NA	NA	NA	NA	NA
Cape Cod	Wellfleet	Cahoon Hollow	NA	NA	NA	NA	NA
Cape Cod	Wellfleet	Indian Neck	total coliform	6	0	0	0
Cape Cod	Wellfleet	Indian Neck	fecal coliform	6	1	0	0
Cape Cod	Wellfleet	Lacounte Hollow	NA	NA	NA	NA	NA
Cape Cod	Wellfleet	Mayo	total coliform	5	0	0	0
Cape Cod	Wellfleet	Mayo	fecal coliform	5	0	0	0
Cape Cod	Wellfleet	Newcomb Hollow	NA	NA	NA	NA	NA
Cape Cod	Wellfleet	White Crest	NA	NA	NA	NA	NA
Cape Cod	Yarmouth	Bass Hole Beach	total coliform	4	0	0	0
Cape Cod	Yarmouth	Bass Hole Beach	fecal coliform	4	0	0	0
Cape Cod	Yarmouth	Bass River Beach	NA	NA	NA	NA	NA
Cape Cod	Yarmouth	Bay View Beach	total coliform	4	1	0	0
Cape Cod	Yarmouth	Bay View Beach	fecal coliform	4	2	0	0
Cape Cod	Yarmouth	Colonial Acres Beach (inside) (closed)	total coliform	12	5	2	0
Cape Cod	Yarmouth	Colonial Acres Beach (inside) (closed)	fecal coliform	12	8	1	0
Cape Cod	Yarmouth	Colonial Acres Beach (outside)	total coliform	8	1	0	0
Cape Cod	Yarmouth	Colonial Acres Beach (outside)	fecal coliform	8	2	1	0
Cape Cod	Yarmouth	Englewood Beach	total coliform	2	0	0	0
Cape Cod	Yarmouth	Englewood Beach	fecal coliform	2	0	0	0
Cape Cod	Yarmouth	Follins Pond Beach	total coliform	2	0	0	0
Cape Cod	Yarmouth	Follins Pond Beach	fecal coliform	2	0	0	0
Cape Cod	Yarmouth	Wilbur Park	total coliform	2	0	0	0

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Region	Town	Beach Name	Method	Number of Tests	Number of Samples Exceeding Criterion [1][2]	Number of Samples Marked "TNTC"	Number of Samples Marked "OG"
Cape Cod	Yarmouth	Wilbur Park	fecal coliform	2	0	0	0
Cape Cod	Yarmouth	Windmill Beach	total coliform	2	0	0	0
Cape Cod	Yarmouth	Windmill Beach	fecal coliform	2	0	0	0
Islands	Chilmark	Lucy Vincent Beach	NA	NA	NA	NA	NA
Islands	Chilmark	Menemsha Beach	NA	NA	NA	NA	NA
Islands	Chilmark	Squibnocket	NA	NA	NA	NA	NA
Islands	Edgartown	Lighthouse Beach	NA	NA	NA	NA	NA
Islands	Edgartown	South Beach	NA	NA	NA	NA	NA
Islands	Edgartown	State Beach	NA	NA	NA	NA	NA
Islands	Gay Head	Head of Menemsha Pond	NA	NA	NA	NA	NA
Islands	Gay Head	Land Bank Beach	NA	NA	NA	NA	NA
Islands	Gay Head	Philbin Beach	NA	NA	NA	NA	NA
Islands	Gay Head	Vineyard sound (Menemsha Bite)	NA	NA	NA	NA	NA
Islands	Nantucket	Children's Beach	fecal coliform	7	1	0	0
Islands	Nantucket	Cisco Beach	fecal coliform	4	0	0	0
Islands	Nantucket	Dionis	fecal coliform	5	1	0	0
Islands	Nantucket	Jettie's Beach	fecal coliform	5	0	0	0
Islands	Nantucket	Madaket Beach	fecal coliform	4	0	0	0
Islands	Nantucket	Siasconset Beach	fecal coliform	4	0	0	0
Islands	Nantucket	Surf Side Beach	fecal coliform	4	0	0	0
Islands	Nantucket	Washington Street Beach	fecal coliform	4	1	0	0
Islands	Oak Bluffs	East Chop Beach Club	fecal coliform	1	1	0	0
Islands	Oak Bluffs	Eastville Beach	fecal coliform	1	1	0	0
Islands	Oak Bluffs	Lagoon Beach	fecal coliform	1	1	0	0
Islands	Oak Bluffs	Sengenkontacket Pond	fecal coliform	1	1	0	0
Islands	Oak Bluffs	State Beach (Oak Bluffs side)	fecal coliform	1	1	0	0
Islands	Oak Bluffs	Steamship Beach (Jette)	NA	NA	NA	NA	NA
Islands	Oak Bluffs	Town Beach (Pay Beach)	fecal coliform	1	1	0	0
Islands	Tisbury	Lagoon Pond	NA	NA	NA	NA	NA
Islands	Tisbury	Lagoon Pond (Head)	NA	NA	NA	NA	NA
Islands	Tisbury	Owen Little Way	fecal coliform	8	2	0	0
Islands	Tisbury	Owen Park	fecal coliform	7	1	0	0
Islands	Tisbury	Tashmoo Openning	NA	NA	NA	NA	NA
Islands	West Tisbury	Lamberts Cove Beach	NA	NA	NA	NA	NA
Islands	West Tisbury	Long Point Beach	NA	NA	NA	NA	NA
Metro Boston	Boston	Carson Beach	fecal coliform	42	0	0	0
Metro Boston	Boston	Carson Beach	enterococcus	42	0	0	0
Metro Boston	Boston	Constitution Beach	fecal coliform	84	11	0	0
Metro Boston	Boston	Constitution Beach	enterococcus	84	0	0	0
Metro Boston	Boston	Lovells Island	fecal coliform	1	0	0	0
Metro Boston	Boston	Lovells Island	enterococcus	1	0	0	0
Metro Boston	Boston	Malibu Beach Bathhouse	fecal coliform	18	0	0	0
Metro Boston	Boston	Malibu Beach Bathhouse	enterococcus	17	0	0	0
Metro Boston	Boston	Pleasure Bay	fecal coliform	14	0	0	0
Metro Boston	Boston	Pleasure Bay	enterococcus	14	0	0	0
Metro Boston	Boston	Savin Hill Beach	fecal coliform	15	0	0	0
Metro Boston	Boston	Savin Hill Beach	enterococcus	15	0	0	0
Metro Boston	Boston	Tenean Beach	fecal coliform	52	3	0	0

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Metro Boston	Boston	Tenean Beach	enterococcus	52	1	0	0
Metro Boston	Braintree	Smith Beach	fecal coliform	30	8	0	0
Metro Boston	Lynn	Kings Beach (north of Red Rock)	fecal coliform	63	9	0	0
Metro Boston	Lynn	Kings Beach (north of Red Rock)	enterococcus	42	11	0	0
Metro Boston	Lynn	Lynn Beach (south of Red Rock)	fecal coliform	20	5	0	0
Metro Boston	Lynn	Lynn Beach (south of Red Rock)	enterococcus	20	4	0	0
Metro Boston	Nahant	Canoe Beach	fecal coliform	13	0	0	0
Metro Boston	Nahant	Long Beach	fecal coliform	13	0	0	0
Metro Boston	Nahant	Nahant Beach	fecal coliform	45	2	0	0
Metro Boston	Nahant	Nahant Beach	enterococcus	45	2	0	0
Metro Boston	Nahant	Shore Beach	fecal coliform	13	0	0	0
Metro Boston	Nahant	Tutor Beach	fecal coliform	13	0	0	0
Metro Boston	Quincy	Avalon	fecal coliform	13	2	0	0
Metro Boston	Quincy	Broady	fecal coliform	13	2	0	0
Metro Boston	Quincy	Chicitawbutt	fecal coliform	13	3	0	0
Metro Boston	Quincy	Edgewater	fecal coliform	13	3	0	0
Metro Boston	Quincy	Mound	fecal coliform	13	2	0	0
Metro Boston	Quincy	Nickerson	fecal coliform	13	2	0	0
Metro Boston	Quincy	Orchard	fecal coliform	13	2	0	0
Metro Boston	Quincy	Parkhurst	fecal coliform	14	4	0	0
Metro Boston	Quincy	Post Island	fecal coliform	13	3	0	0
Metro Boston	Quincy	Rhoda	fecal coliform	14	3	0	0
Metro Boston	Quincy	Wollaston	fecal coliform	94	18	0	0
Metro Boston	Quincy	Wollaston	enterococcus	95	2	0	0
Metro Boston	Revere	Revere Beach	fecal coliform	39	1	0	0
Metro Boston	Revere	Revere Beach	enterococcus	39	2	0	0
Metro Boston	Revere	Short Beach	fecal coliform	13	1	0	0
Metro Boston	Revere	Short Beach	enterococcus	13	1	0	0
Metro Boston	Swampscott	Eiseman's	total coliform	10	0	0	0
Metro Boston	Swampscott	Fisherman's	total coliform	10	0	0	0
Metro Boston	Swampscott	Kings Beach	total coliform	11	2	0	0
Metro Boston	Swampscott	Kings Beach	fecal coliform	22	5	0	0
Metro Boston	Swampscott	Kings Beach	enterococcus	22	4	0	0
Metro Boston	Swampscott	Phillips/Preston	total coliform	10	0	0	0
Metro Boston	Winthrop	Donovan's Beach	total coliform	3	1	0	0
Metro Boston	Winthrop	Grand View Ave Beach	total coliform	3	1	0	0
Metro Boston	Winthrop	Halfort Beach	total coliform	3	0	0	0
Metro Boston	Winthrop	Pico Beach	total coliform	3	0	0	0
Metro Boston	Winthrop	Sargent Street Beach	total coliform	3	0	0	0
Metro Boston	Winthrop	Short Beach	NA	NA	NA	NA	NA
Metro Boston	Winthrop	Winthrop Beach	fecal coliform	14	0	0	0
Metro Boston	Winthrop	Winthrop Beach	enterococcus	14	0	0	0
Metro Boston	Winthrop	Winthrop Shore Drive Beach	total coliform	3	0	0	0
Metro Boston	Winthrop	Yirrell Beach	total coliform	3	0	0	0
Salem Sound	Beverly	Dane Street Beach	total coliform	14	0	0	0
Salem Sound	Beverly	Gillis Park Beach	NA	NA	NA	NA	NA
Salem Sound	Beverly	Hospital Point Beach	NA	NA	NA	NA	NA
Salem Sound	Beverly	Independence Park Beach	total coliform	8	0	0	0

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Salem Sound	Beverly	Lynch Park Beach	total coliform	8	1	0	0
Salem Sound	Beverly	Over Park Beach	total coliform	7	0	0	0
Salem Sound	Beverly	Woodbury Beach	total coliform	8	0	0	0
Salem Sound	Danvers	Sandy Beach	fecal coliform	9	3	0	0
Salem Sound	Manchester	Black	total coliform	7	0	0	0
Salem Sound	Manchester	Grays Beach	total coliform	7	0	0	0
Salem Sound	Manchester	Singing Beach	total coliform	7	0	0	0
Salem Sound	Manchester	Tuck's Point	total coliform	7	0	0	0
Salem Sound	Manchester	West Manchester	total coliform	8	1	0	0
Salem Sound	Manchester	West Manchester	fecal coliform	1	1	0	0
Salem Sound	Manchester	White	total coliform	7	0	0	0
Salem Sound	Marblehead	Corinthian	fecal coliform	2	0	0	0
Salem Sound	Marblehead	Corn Point	fecal coliform	4	0	0	0
Salem Sound	Marblehead	Devereux	fecal coliform	5	1	0	0
Salem Sound	Marblehead	Eastern Beach	fecal coliform	1	0	0	0
Salem Sound	Marblehead	Gas House	fecal coliform	5	0	0	0
Salem Sound	Marblehead	Grace Olivers	fecal coliform	4	0	0	0
Salem Sound	Marblehead	Naugus	fecal coliform	4	1	0	0
Salem Sound	Marblehead	River Head	fecal coliform	2	1	0	0
Salem Sound	Marblehead	State Beach	fecal coliform	5	0	0	0
Salem Sound	Marblehead	Stramski	fecal coliform	5	0	0	0
Salem Sound	Marblehead	Sunset	fecal coliform	3	0	0	0
Salem Sound	Marblehead	Village Street	fecal coliform	5	0	0	0
Salem Sound	Salem	Collins Cove	total coliform	7	0	0	0
Salem Sound	Salem	Forest Park (POOL)	total coliform	5	0	0	0
Salem Sound	Salem	Forest River Point	total coliform	6	1	0	0
Salem Sound	Salem	Juniper Point	total coliform	7	0	0	0
Salem Sound	Salem	Mackey	total coliform	7	1	0	0
Salem Sound	Salem	Osgood	total coliform	7	0	0	0
Salem Sound	Salem	Palmer's Cove (closed)	total coliform	7	1	0	0
Salem Sound	Salem	Pickman	total coliform	7	1	0	0
Salem Sound	Salem	Willows (at Memorial Drive)	total coliform	7	1	0	0
Salem Sound	Salem	Willows (at pier)	total coliform	7	0	0	0
Salem Sound	Salem	Winter Island	total coliform	7	0	0	0
South Shore	Cohasset	Black Rock	fecal coliform	4	0	0	0
South Shore	Cohasset	Sailing Club	fecal coliform	4	0	0	0
South Shore	Cohasset	Sandy Beach	fecal coliform	4	0	0	0
South Shore	Cohasset	Sandy Cove	fecal coliform	4	0	0	0
South Shore	Cohasset	Yacht Club	fecal coliform	3	0	0	0
South Shore	Duxbury	Harden Hill	fecal coliform	18	0	0	0
South Shore	Duxbury	Howlands Landing	fecal coliform	19	0	0	0
South Shore	Duxbury	Landing Road	fecal coliform	17	0	0	0
South Shore	Duxbury	Public Beach (Bath House)	fecal coliform	20	2	0	0
South Shore	Duxbury	Residents Beach	fecal coliform	19	2	0	0
South Shore	Duxbury	Shipyard Lane	fecal coliform	19	1	0	0
South Shore	Duxbury	West Powder Point Bridge	fecal coliform	20	2	0	0
South Shore	Hingham	Town Beach	fecal coliform	29	0	0	0
South Shore	Hull	A Street Beach (bay side)	fecal coliform	10	0	0	0

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South Shore	Hull	A Street Beach (ocean side)	fecal coliform	10	0	0	0
South Shore	Hull	Darcy's Beach	fecal coliform	10	0	0	0
South Shore	Hull	Gun Rock Beach	fecal coliform	10	0	0	0
South Shore	Hull	Hampton Circle Beach	fecal coliform	10	0	0	0
South Shore	Hull	Helen Street Beach	fecal coliform	10	0	0	0
South Shore	Hull	Jetty Spring Beach	fecal coliform	10	0	0	0
South Shore	Hull	Kenberma Beach (ocean side)	fecal coliform	10	0	0	0
South Shore	Hull	Nantasket	fecal coliform	48	2	0	0
South Shore	Hull	Nantasket	enterococcus	48	1	0	0
South Shore	Hull	Whitehead Beach	fecal coliform	10	0	0	0
South Shore	Hull	XYZ Street Beach (ocean side)	fecal coliform	10	0	0	0
South Shore	Kingston	Gray's Beach	total coliform	2	0	0	0
South Shore	Kingston	Gray's Beach	fecal coliform	3	0	0	0
South Shore	Kingston	Rocky Nook	total coliform	2	0	0	0
South Shore	Kingston	Rocky Nook	fecal coliform	3	0	0	0
South Shore	Marshfield	Brant Rock	fecal coliform	9	0	0	0
South Shore	Marshfield	Fieldston	fecal coliform	9	0	0	0
South Shore	Marshfield	Green Harbor	fecal coliform	9	0	0	0
South Shore	Marshfield	Ninth Road	fecal coliform	9	0	0	0
South Shore	Marshfield	Rexame Beach	fecal coliform	9	0	0	0
South Shore	Pembroke	Town Landing	total coliform	9	0	0	0
South Shore	Plymouth	Nelson Street Beach	total coliform	6	4	0	0
South Shore	Plymouth	Nelson Street Beach	fecal coliform	6	3	0	0
South Shore	Plymouth	Plymouth Beach	NA	NA	NA	NA	NA
South Shore	Plymouth	White Horse Beach	NA	NA	NA	NA	NA
South Shore	Scituate	Egypt	fecal coliform	11	1	0	0
South Shore	Scituate	Humarock	fecal coliform	11	0	0	0
South Shore	Scituate	Minot	fecal coliform	11	1	0	0
South Shore	Scituate	Peggotty	fecal coliform	11	2	0	0
South Shore	Scituate	Sandhill	fecal coliform	11	2	0	0
South Shore	Weymouth	George Lane (New Wessagusset)	fecal coliform	11	0	0	0
South Shore	Weymouth	Old Wessagusset Beach	fecal coliform	11	0	0	0
Upper North Shore	Essex	Clammer's Beach	total coliform	9	0	0	0
Upper North Shore	Essex	Conomo Point	NA	NA	NA	NA	NA
Upper North Shore	Gloucester	Cressey Beach	total coliform	8	0	0	0
Upper North Shore	Gloucester	Good Harbor Beach	total coliform	8	0	0	0
Upper North Shore	Gloucester	Half Moon Beach	total coliform	8	0	0	0
Upper North Shore	Gloucester	Niles Beach	total coliform	11	0	0	0
Upper North Shore	Gloucester	Pavillion Beach	total coliform	8	1	0	0
Upper North Shore	Gloucester	Plum Cove Beach	total coliform	10	0	0	0
Upper North Shore	Gloucester	Wingaersheek Beach	total coliform	8	0	0	0
Upper North Shore	Ipswich	Clark	NA	NA	NA	NA	NA
Upper North Shore	Ipswich	Crane	NA	NA	NA	NA	NA
Upper North Shore	Ipswich	Little Neck	NA	NA	NA	NA	NA
Upper North Shore	Ipswich	Pavillion	NA	NA	NA	NA	NA
Upper North Shore	Newbury	Plum Island	NA	NA	NA	NA	NA
Upper North Shore	Newburyport	Plum Island	NA	NA	NA	NA	NA
Upper North Shore	Rockport	Back Beach	total coliform	11	1	0	0

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Upper North Shore	Rockport	Cape Hedge Beach	total coliform	11	1	0	0
Upper North Shore	Rockport	Front Beach	total coliform	11	1	0	0
Upper North Shore	Rockport	Long Beach	total coliform	8	0	0	0
Upper North Shore	Rockport	Old Garden Beach	total coliform	10	0	0	0
Upper North Shore	Rockport	Pebble Beach	total coliform	11	1	0	0
Upper North Shore	Rowley	Rowley Beach	NA	NA	NA	NA	NA
Upper North Shore	Salisbury	Salisbury State Beach	fecal coliform	18	0	0	0
			Total	3402	210	21	23

Notes: (1) The water quality criteria used for total coliform for this table is 1000 CFU/100mL; for fecal coliform is 200 CFU/100mL; for enterococcus is 104 CFU/100mL.
(2) There is currently no water quality criterion for E. coli in marine waters.

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